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## ESSAY ON CHOLERA INFANTUM.

ART. I. *Pathology and Treatment of Cholera Infantum.* By SAMUEL A. CARTWRIGHT, M. D. of Natchez.

Continued from p. 176, last number.

THE disease which we have been considering, is one which mostly attacks children between their fifth and twentieth month; those who are younger or older than this, are less subject to it. It appears in Pennsylvania, Maryland, Virginia, Kentucky and Ohio, sometime in June, and continues until near October. It is most rife in July and August. In the more southern States, as the Carolinas, Louisiana, Mississippi, and Alabama, it appears as early as April or May. It mostly confines itself to towns and cities, but occasionally prevails in low humid situations in the country. The children of the poorer classes of society, who live in confined and ill-ventilated houses, suffer the most; but those children who enjoy the advantages of large cool houses, of comfortable clothing, of cleanliness, and of a wholesome and well regulated diet, and who are diligently watched over by careful nurses, are by no means entirely exempted from its attacks. The cholera infantum is a very fatal disease. Nearly one-fourth of *all* the deaths among children, in some of our most populous cities, are reported to be cholera infantum. In 1818, 173 died in Philadelphia, of this disease: in 1819, 225. In 1823, 253 children died of cholera, in Baltimore; and a larger number the same year, in Philadelphia.

Professor Potter, of Baltimore, contends that cholera infantum is an indigenous disease of the U. States, and has sprung up within the last half century. The fact of its not

having been noticed before by medical writers, and its not having yet attracted the attention of the physicians of any part of Europe, is a sufficient proof of its *indigenous* nature, and of its modern origin. That it is a different disease from that which attends on *dentition*, *worms*, &c. is at once evident to those who are conversant with it. To those who are not, it will only be necessary to state, that the diseases arising from worms, dentition, &c. prevail at *all* seasons and in *all* places: but cholera infantum prevails only at a *particular* season, in *particular* places in the United States, and is confined to certain definite limits. These limits are not so circumscribed as those of yellow fever, yet much less extensive than those of bilious fever. Nor is the disease so closely tied down by climate and season as the former, yet more so than the latter. Like yellow fever, it mostly confines itself to our large seaport towns and cities; like bilious fever, it sometimes is met with in the more low and unhealthy situations in the country; yet, *unlike* both these diseases, it generally appears at an *earlier* period of the year than either the one or the other. That cholera infantum, the yellow fever, and bilious fever, should thus be confined to particular districts, while neighbouring districts, in the *same* country and climate, *equally* exposed at the *same* season of the year, to the *same* degree of heat and atmospherical vicissitudes, should not only be free from the least suspicion of generating them, but even when transplanted, of fostering or propagating these diseases, proves incontestibly, that, whatever may be the cause of either of them, such cause must be of *local origin*, otherwise its effects could not be *local*. What that cause is, we now proceed to inquire. That it is not *heat alone* is evident from the fact, that heat exerts its influence *equally* on those places wherein cholera or any of the above diseases do *not* prevail, as in those in which they *do*. The same may be said of moisture and of atmospheric vicissitudes. Our whole country is subjected to the influence of heat, moisture, and atmospheric vicissitudes, but only a *few spots*, of very limited extent, to cholera infantum. That it is not the effluvia from the decomposition of animal and vegetable matter *alone* which produces this disease, is evident from the fact, that these effluvia are often *present*, not only in the country but in towns, and *no* disease is produced. It will be necessary to know in what respect those local situations in which cholera prevails, differ from those in which it does not. They will be found generally to abound with a greater amount of effluvia arising from the decomposition of animal and vegetable substances, placed

under *different* circumstances, from those more extensive regions, that are never visited by the disease. Effluvia are nothing more than parts of the decomposed bodies themselves. Decomposition is nothing more than an *analysis*, which nature makes of those substances that have lost their vitality. Effluvia are the product of *part* of that analysis. They are innoxious as the bodies of which they formed part. Facts prove them to be so. Nature still *further* analyzes these effluvia; and separates them into the original atoms of which they are composed. The atoms *obey* their affinities and enter into various combinations. Throughout this whole process the *general plan* of nature under *ordinary* or common circumstances, is so to separate and combine the atoms of bodies, as to render them *harmless* to man. Were this not her *general plan*, living animals would soon be *entirely destroyed* by the deleterious combinations of those atoms, which are the result of dead matter analyzed or decomposed. This, though the *general order* of nature, under *ordinary* circumstances is not so under *all* circumstances. In those places in which cholera infantum, bilious and yellow fevers prevail, the atoms of the effluvia arising from the decomposition of dead matter are placed under very *different* circumstances, from the atoms of those effluvia of other more extensive regions, or even of those unhealthy places themselves in *different* seasons. In sickly seasons and in sickly places the atmosphere not only contains a greater amount of the effluvia of dead matter, but it is also warm, moist, and more or less stagnant. Close, damp, and ill ventilated houses prevent the effluvia thrown off by putrefying substances from being dissipated in the atmosphere, and the effluvia thus retained in the atmosphere within narrow limits, are *there* subjected to still further analysis. The atoms, the product of this further analysis, being thus confined in a close atmosphere, whose moisture *has robbed* it of its electricity, *do not obey* the general rule of entering into harmless combinations, but a *combination* of the atoms takes place, different from those combinations which would have occurred under ordinary circumstances. This is a process entirely *synthetical*—the product of it is *malaria* or *miasmata*. These malaria or miasmata *differ* as much from the effluvia of dead matter, as an acid or alkali differ from a natural salt. The effluvia are the product of an analysis of dead matter; the malaria or miasmata, the product of a synthesis or *malarious assimilation*, taking place among the particles decomposed. This malarious assimilation under *ordinary* circumstances, never can happen; but only under *peculiar* circumstances. Man, when life is extin-

guished, if left under ordinary circumstances, returns to dust; but under peculiar circumstances to *adipoecere*. The atmosphere under ordinary circumstances supports combustion, but under the peculiar circumstances in which it is sometimes found in caverns, it contains carbonic acid gas, which extinguishes flame. It is therefore the *circumstances attending the decomposition of matter*, which cause it to assume one form or another. It is not the *decomposition* of matter, but the *combinations* which may take place, under peculiar circumstances, from the matter decomposed, that produces disease. The malarious assimilation itself acting under different circumstances, produces different *kinds* of malaria or miasmata. Taking place in the vicinity of a marsh, the effluvia thrown off from the marsh, have the atoms into which they are separated combined anew by the malarious assimilation—producing those miasmata that give rise to bilious fevers. The same malarious assimilation, when occurring under peculiar circumstances in towns, generates the peculiar malaria the cause of yellow fever. So also the cause of cholera infantum is a miasm, the product of a peculiar malarious assimilation, which takes place under certain circumstances of country, place and season, in an atmosphere warm, moist, stagnant, and non-electric. That the miasms of the above diseases are different from one another, is proved by the different phenomena *each* of these diseases afford; by the different localities of *each;* by the different extent of country *each* occupies; and by some difference in the seasons in which they appear; and also in the persons they attack. Thus, the bilious fever is mostly confined to marshes and low situations; the yellow fever is not found on marshes, but in populous towns and cities. The former pervades a large extent of country; the latter is confined to very narrow limits. The cholera infantum, though mostly confined to towns and cities, extends also into the country, appears earlier in the season than yellow fever, and attacks those subjects whom yellow fever *frequently lets escape*. The cholera prevails also in places in which yellow fever has never appeared. The yellow fever is unknown in Cincinnati, and the inhabitants of that flourishing city are remarkably exempt from the common bilious fever of the country, yet the cholera infantum prevails there to an alarming extent. In 1819 it was particularly severe. The traveller, on visiting the burial places of that city, is astonished at the immense number of children's graves. Why matter after decomposition, should, under peculiar circumstances, be *again combined* into different miasms, producing bilious fevers in some places,

and yellow fever and cholera infantum in others, is altogether beyond my comprehension. What all the circumstances are which are necessary for the production of the malarious assimilation, that generates the miasm of cholera infantum, can only be known by ascertaining in what respects, *those localities* to which cholera infantum is confined, *differ* from those more extended regions, in which the disease has *never* yet appeared. Here a particular acquaintance with the *medical topography* of each place, subject to cholera, is absolutely necessary for ascertaining *all* the circumstances, which are necessary to produce the miasm of that disease. The medical topography of those places is not yet well known. I shall only pretend to sketch out a general outline of the circumstances in which those places *differ*, from the more healthy and extensive portions of our country. There is generally a *greater* amount of effluvia in a given space of atmosphere, in districts infected by cholera, than in those exempted from it. These effluvia arise from a much *greater variety* of substances in a state of putrefaction. The air which contains the effluvia, is often *confined* and not permitted to circulate freely by *artificial means*, as low, close, crowded, ill ventilated houses, narrow and crooked alleys, back yards and gardens hemmed in by high walls, &c. The atmosphere is also rendered *artificially moist*. When the soil in healthy parts of the country is *firm* and *dry*, the surface exposed in the back yards of towns is nearly always more or less *moist* and *mouldy*. *Evaporation is constantly taking place in towns to a considerable extent.* The atmosphere, consequently, contains *more* moisture than the country; and as *moist* air is a non-electric, it contains a *less* amount of electricity in the one place, than in the other. These causes, together with a certain degree of heat, and probably other causes not yet observed, conspire to produce the *malarious assimilation*, which *generates* the miasm of cholera infantum. These are likewise some of the circumstances which are necessary for the production of the miasms of yellow fever. It is a remarkable fact that the circumstances which are necessary for the generation of the miasms of yellow and bilious fever, seldom take place two years *in succession* in the *same* place, although the effluvia, to which they are erroneously attributed, may exist every year in equal degree. Effluvia as mere effluvia are innoxious, and should not be confounded with miasmata. By not making this distinction, many have been led to denounce entirely the *agency* of matter in a state of decomposition in the production of disease, but have attributed their causes to some one or more of

those circumstances which favour the deleterious combination of the decomposed atoms. Thus, the *evaporating process*, *heat*, *moisture*, &c. have all been considered as the direct causes of epidemics; whereas they are only *some* of the circumstances which are necessary for the generation of malaria or miasmata. How is the existence of this malaria proved? and on what ground is it asserted, that yellow fever, for instance, is not produced by the effluvia of dead matter, by the evaporating process, by great heat and moisture, or by *all* those causes acting *at one* and the *same time* on the system? The process, in favour of malaria, and against those suppositions, are plain and pointed. We all know that when yellow fever has become epidemic in a city, that it *continues* to prevail, until it is checked by frost, in defiance of all *precautions* which can be taken to arrest its progress. All the materials which are in a state of putrefaction may be *removed;* the air, before moist, may become *dry;* the evaporating process may be *suspended*, and the mercury may *fall* 30 or 40 degrees *below* the point it stood *at* the time the disease appeared, yet it will continue to prevail, after every one of its supposed causes has been removed. Why should persons from the *country*, who now visit the infected district, as well as those who have remained in it, still be liable to be attacked with the disease. If effluvia produced it, if evaporation or moisture produced it, or if *all* these combined produced it, what should give rise to the disease, when *each and every one of these supposed causes are removed?* Now, as the above circumstances (together with some others probably) *always precede* the appearance, but do *not attend the progress* of yellow fever, does it not prove, that during the co-existence of these circumstances, an *effect* is produced in the atmosphere; that a *miasm* is generated, by some unknown process, which I have called malarious assimilation, and that this miasm is the true cause of yellow fever, and is capable of producing its deadly *effects* on the human system, after those causes which produced it *have been removed.* When Dr. Priestly applied heat to charcoal and metallic oxides, and found that after the heat, the charcoal, and the metallic oxides had been *removed*, the air in his retort produced *different* effects from common atmospheric air, from charcoal, from metallic oxides, or from heat—that it burnt with a lambent blue flame; that it killed birds when put into it, produced giddiness when breathed, &c.—he rationally concluded that during the *co-existence* of the heat, the charcoal, and the metallic oxides, a *new combination* had taken place, which though *invisible* and *intactible*, was not the less in reality, a

distinct substance, which, like all other substances, was known *only* by its effects, and distinguished from other substances by some *peculiar* effects. He recollected, no doubt, that all kinds of substances do not exhibit those effects called *visibility* and *tangibility*, any more than that all kinds of substances exhibit the effects called *malleability* and *elasticity*. For had he denied the existence of all substances which do not exhibit these effects, he would have denied the existence of several substances capable of producing a thousand other effects. He concluded therefore, that he had a *new* compound, which though invisible and intangible, nevertheless produced effects which entitled it to be regarded as a *substance*. He proved that the *coexistence* of the above causes, heat, charcoal, and metallic oxides produced this new substance, because the air in his retort produced *different* effects *after* their coexistence than *before* it, and he proved that this substance was different from *all* other substances, because it could produce effects which *no* other substances could. So the ætiologist proves, that the *coexistence* of effluvia, a high temperature, moisture, stagnant and non-electric air, taking place at a particular season, produces a *new compound* or *substance*, because the air of his city produces different effects *after* the coexistence of these circumstances, than *before* that coexistence, and he proves that it is different from the effluvia, the heat, the moisture, the stagnant and non-electric air, because it produces its effects, *after* the effluvia, heat, moisture, &c. have been *removed*—effects which are peculiar to itself. Dr. Priestly proved the existence of carbonic oxide by induction, so does the ætiologist prove the existence of malaria or miasmata. To deny the one substance or the other because it is invisible and intangible, would be to deny the Baconian philosophy, and to substitute for that philosophy, which from their effects alone has made us acquainted with so many invisible and intangible substances, that erroneous philosophy which does not trace effects to causes, but *deduces* effects from *supposed* causes. To suppose as Professor Hosack has done, that the malaria or miasm of yellow fever can not be generated without the *pre-existence of a little* malaria, contagion or ferment would be as unphilosophical, as for the chemist to suppose, that the carbonic oxide cannot be produced by heating charcoal with metallic oxides without the pre-existence of a *little* carbonic oxide. Carbonic oxide is made without the presence of any pre-existing carbonic oxide; water is made from oxygen and hydrogen without the presence of other water; and have we not all seen the yellow fever springing up, in places entirely precluded from the

presence of *any pre-existing* contagion or miasm? Professor Hosack's hypothesis is proved, by an abundance of facts coming under my own observation, to be *but an hypothesis.* Those who suppose that a high temperature directly produces yellow fever, should recollect that after the disease has once commenced in a place, it continues to prevail, until frost, even after the thermometer has fallen to 40° of Fahrenheit. Those who suppose that the putrefaction of dead matter produces it, should recollect that the disease continues after the houses or other places containing the putrid matter have been not only cleansed of their putrid contents, but white washed, painted, and ventilated. It also continues after the *drying* process has been suspended, and the *moist, stagnant* air has given place to *dry, windy* weather. Now as the above circumstances are *all* necessary for the *production* of yellow fever, but not for its *continuance*, it is evident that during the coexistence of these circumstances, *an effect* is produced in the atmosphere, *which continues to exist after the causes that produced it are removed.* This effect is called malaria or miasmata, and the *process* which produced it *malarious assimilation.* The miasm of cholera infantum also, continues to produce its pernicious effects after the causes which gave rise to it have ceased to exist: and the same Baconian mode of reasoning which proves the existence of the miasm of yellow fever, will also prove the existence of the miasm of cholera Infantum. My limits will not permit me to pursue this subject further.

The air charged with a miasm, as it always is, in those places in which cholera infantum prevails, is inhaled and exhaled twenty times or more in a minute. It comes in contact with a surface of membrane in the lungs, interwoven with nerves from the pulmonary plexuses—a membrane nearly equal in extent to the whole surface of the body. The nerves, which are distributed to this extensive surface of mucous membrane, are the pneumo-gastric and pneumo-ganglionic. The former, from the experiments of Horner, Bell, &c. have been proved to preside over the *motive* powers of the lungs. The lungs, however, perform another office besides that of drawing in and expelling the air. It is the important office of changing by some unknown process, *venous* into *arterial* blood. The ganglial nerves, if they perform any office, must perform the important one of presiding over or controlling this important function. Facts show us that the blood of children who breathe the polluted atmosphere of cholera infantum, or the blood of those persons that breathe the polluted

atmosphere of bilious or yellow fevers, is changed from its healthy appearance. It is much darker when they are in apparent health, and is also darker when they are attacked by disease, and only becomes florid or sizy by some local inflammation. Dr. Rush noticed this dark appearance of the blood, in those who breathed an atmosphere charged with miasmata. This fact proves that the respiration of a miasmatic atmosphere interrupts or prevents the transformation of *venous* into *arterial* blood. This very *interruption* to the arterialization of the blood, proves that the miasmata produced a morbid state of the extremities of the pneumo-ganglionic nerves. But the morbid effects of the miasmata stop not here. I have made numerous post-mortem examinations in miasmatic diseases, and have invariably found the ganglions more or less diseased, together with their primitive plexuses. The fine tissue which envelops the ganglions, particularly the semilunar, was always found highly inflamed; also the membranes investing the posterior pulmonary plexus, and one or more of those plexuses given off by the semilunar ganglion. Some one or more of the organs which are supplied with nerves from the diseased ganglions, were always found to be more or less inflamed and sometimes gangrenous in places. Those organs which are the most profusely supplied with the ganglial nerves, the brain excepted, generally suffered the most. Thus the liver, the stomach, and the duodenum were the organs mostly diseased in recent deaths—sometimes one suffered more and sometimes less. The brain would seem to be consecutively affected. The miasmata applied to the extremities of the ganglionic nerves in the lungs, during the respiration of the atmosphere of an infected district, produces a morbid impression, which interrupts in some measure the arterialization of the blood. The morbid impression is conveyed to the ganglions, the centres of the nerves of organic life, and there produces disease, as discovered by morbid anatomy. The ganglions being diseased, all those parts which are supplied with nerves from the ganglions, as the liver, the stomach, the bowels, &c. become diseased in consequence of the diseased state of the ganglions and their plexuses, from which they derive their nerves. But it may be said, that if an inflammation of the fine tissues immediately investing the ganglions, and some one or more of the primitive plexuses and the adjacent cellular substance, be phenomena which invariably occur in miasmatic diseases, why should these diseases, whose internal pathology is apparently the same, be considered as distinct? I reply that the knife can only show us that the nerves are in a morbid

condition, and that their investing membranes are inflamed; the precise nature of that morbid condition and the precise nature of that inflammation, cannot be learned from morbid anatomy. This we are to learn from the phenomena presented by each species of inflammation. But to know that these miasmatic diseases consist in an inflammation of the membranes investing the ganglions and their plexuses, and of an inflammation, and sometimes of a structural derangement in some one or more of those organs supplied with ganglial nerves, is not less useful and practical, than a knowledge of the seats and morbid appearances of gout, rheumatism, or any other disease. Although morbid anatomy will not teach us *every thing* with regard to diseases, yet it will teach us *much;* and is no less useful to the pathologist, than anatomy to the physiologist. It may not be entirely irrelevant to make some remarks on the ganglionic system of nerves, and the office that the system of nerves fulfils in the animal economy. It was from M. Cuvier's having discovered that the sympathetic nerve did not exist between the superior cervical and the first thoracic ganglion in birds; and from Bichat's having discovered that the sympathetic was sometimes wanting, between the first lumbar and the last thoracic ganglion, between the lumbar ganglions themselves, and also between the sacral, that led the latter physiologist to the conclusion, that the ganglia were the centres from which the nerves of organic life originate, as the brain is the centre of the nerves of animal life. What is called the sympathetic nerve, is nothing more than a line of communication between the ganglia, and is occasionally wanting between one or more ganglions, without interrupting the functions of the viscera, which are supplied with ganglionic nerves. The sympathetic has no connexion with the ophthalmic and sphenopalatine ganglions. Bichat has also shown that there is a manifest difference between the nerves coming from the brain and spinal marrow, and those of the ganglions. "Those from the brain are larger, less numerous, whiter, more compact in their texture, and exposed to less frequent variations. On the contrary extreme tenuity, very considerable numbers, particularly towards the plexus, a grayish colour, a remarkable softness of texture and very common variations are the character of the nerves coming from the ganglions." (Bichat—*Sur la Vie et de la Mort.*) In his General Anatomy a variety of facts are introduced to show that the nerves called ganglionic, grow with the growth of the parts to which they are distributed, and bear an evident *proportion* in their development, to that of the parts to which they are distributed:

while the nerves of animal life bear no proportion in their development to that of the parts they supply. There is therefore a manifest *difference* in the structure, growth, &c. of nerves of animal and organic life, let the origin of the latter be from what source it may. If these nerves differ in structure, it necessarily follows that they differ also in office. Mr. C. Bell has proved that when two nerves coming from different sources are distributed to the same part, that such part performs two offices. Bell and Magendie have found that by dividing the posterior faciculus of the spinal nerves, the sensibility of the part it supplied was destroyed, but a division of the anterior faciculus destroyed the muscular motion of the part. Bichat found by experiments made on living animals, that if the ganglionic nerves of the stomach, intestines, &c. be irritated, no spasm is produced in the fleshy fibres of these organs, as is the case with these fibres when the spinal or cerebral are irritated; and when a division of the cerebral nerves palsied the stomach, its exhalation, absorption, or nutrition was but little affected. The ganglionic nerves must therefore perform a different office from either the cerebral or spinal nerves. The power which the lungs possess of arterializing the blood, is different from that power the same organs possess of receiving and expelling the atmospheric air, because in yellow fever and many other diseases the lungs *retain their motive powers*, after they have long ceased to produce that *change* on the blood termed its arterialization. The nerves which are essential to one of these processes, the experiments of Le Gallois, Horner, &c., prove to be the cerebral, while the nerves which are essential to the other process, can be no other than the ganglionic. In proof that the lungs are supplied with ganglionic nerves, a reference to anatomy will be all that is necessary. The pulmonary plexus is made up, in part, by nerves from the ganglions, and from their plexus nerves are distributed to the lungs, whose ultimate twigs are spent on the minute ramifications of the bronchial tubes. (*Bichat's Descriptive Anatomy.*) If the ganglionic nerves of the lungs are not made in vain, they must control or influence the arterialization of the blood—the pneumo-gastric nerves have been proved to preside over a different function, and according to Mr. Bell, when a part is supplied by two orders of nerves, it performs two offices, each of which is controlled by its *particular* nerves. What the office the ganglionic nerves perform in the stomach, and what the cerebral, might now be inquired into, but it is not essential to the present subject, and I wave the inquiry. Suffice is it to know, that the nerves

of the ganglions are not distributed to the stomach in vain. The experiments of Bichat on living animals, above mentioned, would show that the ganglionic nerves controlled the absorption and secretion, but not the sensible organic contractility of that organ. Not only the stomach and the bowels, but the various collatitious viscera of the digestive system, are all purposely supplied with ganglial nerves, which must be essential to the healthy functions of the viscera. Now, as organs which have different nerves, have different offices, and as the viscera have different nerves, the nerves of animal and organic life, I am induced, more by the facts of M. C. Bell and other recent experimenters on the nervous system, than the high authority of Brouissais, to subscribe to the proposition of this celebrated professor: "That the ganglionary nerves preside over those internal motions only which the cerebral centre does not direct. That they are mingled with the capillary system of the viscera, and serve to regulate and transmit stimulation from one part to another. That when irritation abounds in the viscera, these nerves transmit it to the apparatus of relation by means of the cerebral nerves with which they communicate in their viscera." The ganglionic nerves are therefore *important agents* in the economy of the human system. The consequences attending on their being diseased is abundantly shown by the congestions and inflammations which attend on miasmatic diseases, and incontestibly proved by the appearances met with on dissection. Many writers and teachers have long since spoken of those congestions and inflammations; I have only advanced one step further to show on what these congestions and inflammations depend. The little discovery I have made *of the diseased state of the ganglionic system of nerves* in miasmatic diseases, will conflict with no fact hitherto observed. It will however show, that to look no further than the stomach, the liver, or the brain, for the seats of miasmatic diseases, will be to stop short of the point to which even *morbid anatomy* will carry us. The nature of that process by which a miasm applied to the extremities of the ganglionic nerves of the lungs, during respiration, produces an inflammation in the delicate tissue enveloping the pulmonary plexus, and the delicate tissue investing the ganglions, is *not less unknown* than the nature of that process by which an impression on the extremities of the nerves of animal life is conveyed to the brain, the centre of animal life. The ganglions, being the centre of organic life, as the brain is the centre of animal life, must *receive* the impressions, whether *morbid* or *not* of the nervous *expansions of*

*the ganglial system*, and when the centre of organic life thus *becomes diseased*, all those organs, which chiefly *depend* for their *nervous* influence on *this* centre, are *liable* to fall into disease.

It may not be amiss to take a short review of the popular doctrine, which supposes, that atmospheric miasms produce their pernicious effects on the system through the medium of the stomach. The miasms, in order to affect the stomach primarily, must be taken into it with the food or saliva. The quantity that could then reach the stomach in the course of the day, must of necessity be very small, when compared to the many hogsheads of polluted air respired in the same time. The miasmatic atmosphere that may be admitted into the stomach is diluted by other substances, both before and after its admission into that organ; but that which is respired is neither mixed with any other substance before its admission into the lungs, nor diluted by any other substance afterwards. The surface to which the miasmata are applied in the stomach is exceedingly small, when compared to the extensive surface of mucous membrane in the lungs.

But, to *admit* that atmospheric miasms affect the system through the *medium* of the stomach, it is evident that the *ganglionic* nerves of the stomach would convey their *morbid* impressions *to the ganglions;* and so the doctrine, that the various *morbid phenomena which constitute* miasmatic diseases depends on a diseased state of the *ganglions*, and *some one or more* of those organs which the ganglions *supply* with nerves, will not be in the least invalidated.

Some have contended, that atmospheric miasms affect the system by producing a morbid state of the nerves of the senses, viz. the cutaneous and olfactory nerves. But the nerves of the senses, when diseased, produce *fewer* constitutional symptoms than the nerves which are *not* intended for sensation. When, also, the nerves of the senses become diseased, they are restored with more *difficulty*, either by nature or art, than the nerves of organic life. In support of this fact, I not only refer to the able dissertation of Mr. Swan on the morbid affections of the nerves, but to every man's experience of the well known fact, that a disease of the nerves of seeing, hearing, tasting, smelling, and feeling, *seldom or never* produces a constitutional disease: and that when either of these nerves is diseased, it is seldom or never *restored* in so short a time, as nature, assisted or unassisted, requires to cure a fever. How, then, can a *fever*, or a *constitutional* disease, as the diseases under consideration evidently are, be

produced by a disease or morbid impression of the cutaneous or olfactory nerves, which are nerves of the senses; nerves whose diseases seldom or never produce constitutional symptoms; and whose diseases, if ever cured, require not a *few days or weeks* only, as the diseases of the *ganglionic nerves*, but *months and years*. The nerves of the senses cannot therefore have an agency in producing fever, nor in communicating to the internal organs the morbid impressions of miasmata. It is the ganglial nerves, the nerves of organic life, which are found diseased *after* death, not the nerves of the senses: it is the organs that are supplied most profusely with ganglionic nerves; not the organs supplied by the nerves of the senses, that are found congested, inflamed, and mortified; it is the functions over which the ganglionary nerves preside, not those functions which are dependent on the nerves of the senses, that are chiefly interrupted or perverted, from the *first apparent onset* of miasmatic diseases to their *termination;* and it can, therefore, be *no other* than the ganglial system of nerves, which are *first* affected by the miasmata. Thus in cholera infantum, the miasmata of that disease are brought in contact with an extensive surface of mucous membrane during the respiration of the polluted atmosphere. The extremities of the pneumo-ganglionic nerves of this membrane receive a morbid impresson from the aerial miasm which is taken into the bronchial tubes and the air cells of the lungs at every breath. The arterialization of the blood, a process presided over by the pneumo-ganglionic nerves, is the *first* function to become impaired by the diseased state of those nerves which control it. The morbid state of the pneumo-ganglionic nerves produces a morbid or diseased state of the pulmonary and cardiac plexuses, and *of the ganglions, the centre of organic life.* The ganglions having become diseased from the morbid impressions their nerves received in the lungs from the presence of an aerial poison, all those organs whose nerves are chiefly derived from the ganglions—as the stomach, the bowels, the liver, &c., and which are thereby rendered the less capable of bearing with impunity the suspension or diminution of the ganglionary influence—will, according to the *predisposition* of each, and the *exciting* causes that may be applied, fall into disease. The ganglionary influence being withdrawn from, or diminished in any organ, as the liver, for instance, in consequence of a diseased state of the ganglions from which it receives its nerves, the *organic sensibility* of the part undergoes a change of state, from a disease of the ganglionic nerves on which it *depends*, the *secre-*

*tory action*, which is controlled by its organic sensibility, becomes *suspended*, *diminished*, *changed*, *or perverted;* and hence the *congestions* with which we found the patient in the commencement of this essay.

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We, the undersigned, have carefully read the following Essay, bearing the motto, "*Plurima mortis imago*," and although the sentiments contained in it generally, have been presented to the profession by other authors, yet, from the manner in which the subject is treated, we have pleasure in saying the paper has merit, and is calculated to promote the science of medicine by its publication, and is consequently entitled to the proposed premium.

HENRY NEILL, M. D.
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Dr. JOHN RUAN.

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ART. II. *An Essay on Diseases of the Liver.* By JOHN R. LUCAS, Mooresville, Alabama.

"Plurima mortis imago."—VIRGIL.

BELIEVING that the Liver is a much more frequent seat of disease than is generally known, or even suspected, in any climate; and that it manifests a greater variety of symptoms under its various grades of diseased action, than all other parts of the body together; many of which are well calculated to mislead the practitioner, by conducting him to incorrect pathological conclusions. I will, in a brief and desultory way, offer a few passing remarks upon some of those most frequently occurring in practice.

When we look at the size of the liver, in the fœtal state, as well as in the adult, and examine the singularity of its circulation, compared with other organs of the body, its great and extensive vascular connection with other and important organs; the functions it is destined to perform, and on the due performance of which, rests so much, and in so eminent a degree, the perfect health of the body; we are at once compelled to admit, that it is destined to hold a commanding influence over every other part of the human system; and that when it is out of tune, (if a proper expression) discord, and the want of harmony, attend upon every other operation of the system. So fully am I impressed with this belief, that I hazard the expression of a decided opinion, that the day is at hand, when, by the universal assent of the me-

dical world, three-fourths of the diseases of the human family will be referred to derangements, functional or structural, in this viscus.

In diseases of a bilious character, we all know that the liver is the organ which invariably suffers most; and that their greatest fury is expended on this viscus, and through its derangements upon other parts of the system, either by sympathy direct, or their indirect vascular connexion, and individual debility, at the time of other organs.

Why this organ should be destined thus particularly to suffer, in this class of diseases, arises, perhaps, from the circulation through it, being one "sui generis," together with its extensive direct vascular connection; whereby it is rendered more obnoxious to the changes affecting the balance of the circulation, than other parts of the system, and less able to repel them, as well from its insensibility, from the paucity of nerves which it receives, as also, from its deficiency in muscular fibre, to aid in expediting the circulation through it. Whatever be the particular operating cause, the fact is certain that it does suffer, and in an eminent degree, in all the diseases of the miasmatic family.

The various grades of diseased action, and the infinite variety of symptoms attendant on these different grades, together with innumerable modifications, arising from the diversified circumstances of situation, climate, mode of life, temperament, hereditary predisposition, idiosyncrasy, &c. affords a field worthy the investigation of the first masters of the Healing Art. That I should, therefore, approach the subject with humility, and with a knowledge that I shall not do it ample justice, is not to be wondered at: I, however, find some consolation in the belief, that however erroneous may be my speculative views upon the subject, that yet, the practical conclusions drawn from them, will not be found totally unworthy the approbation of my medical brethren.

Vegetable matter, in a state of putrefaction, is the great emporium from whence issues that noxious something, which results in the production of disease of a bilious character. This we conclude to be the fact, from the notorious frequency of attacks in those who are exposed to the range of this putrefactive process, and the exemption from attacks of a similar character, in those who, at the same time, are removed beyond the sphere of its influence, by residing in districts of country where these causes do not abound in the same degree.

Now an almost infinite diversity of circumstances may

arise, and variety of causes abound in every place; by which the intensity of this noxious principle, generating disease, may be increased or diminished in force, and by the influence thus exercised on the cause from which the disease is to emanate, effects infinitely various in degree are necessarily, the result, as the one or the other may predominate.

This noxious principle, then, emanating from vegetable matter in a state of putrefaction, coming into contact with various modifying circumstances and causes, preserving, nevertheless, its original and inherent attributes, yet acts on, and is in turn influenced by them, producing a state, kind, and degree of diseased action peculiar to the determining agent, controlling at that particular time, and graduated only in intensity by the concentration or diffusion of that superior determining agent.

Thus at one time and season we meet with bilious diseases of a high grade of action, and at another time and season we meet with the same diseases of a low grade of action. They are, nevertheless, both bilious diseases. The particular grade of action being imparted by the influence of some *other* cause or circumstance than the specific cause which generated the disease itself.

These considerations then, lead us to inquire into the different kinds of action, in bilious fevers, which we meet with, as well as the difference in intensity with which different persons are attacked in the same kind, and same season, and place, and the same and different persons in different seasons and places; the predispositions all being the same, the specific cause also remaining the same; that determining the grade of action alone varying.

The truth of these differences is illustrated by a reference to those districts where we meet with a violent yellow fever, a little farther off with a violent remittent fever, and still farther off from the source of disease, we meet only with a mild intermittent. The same thing is observed every day between those who take the disease on shore and remain there, and those farther off on ship-board; and still more strikingly in those who take the infection on shore, but are removed on ship at a distance from the shore, at least beyond the sphere of the miasmatic influence. In the first the disease is much more violent and fatal; in the two latter much milder, and more manageable, although, in every instance, the disease was derived from the very same specific cause—namely, miasm.

This, then, proves that the general character, as well as the intensity of attack, depends upon the concentration or

dilution of the specific cause generating the disease; but it in nowise proves, that the grade of action of the heart and arteries attendant on these diseases, is influenced by the specific cause producing the disease itself.

From this state of things then, it is clear—first, that the bilious character of the disease is imparted by a specific cause; and second, that the grade of action attendant is dependent on other causes and circumstances distinct from this specific cause.

This, again, leads us to the inquiry which is to explain to us the reason, why we some times meet with the same disease attended with a high grade of arterial action generally, and at another time with a low grade of arterial action generally. In other words, why the same bilious disease of different seasons, should at one time require for its cure, the most active depletion, and at another time the most potent stimuli, and of a third season, a combination of the two, seeing that its specific origin is the same in all seasons.

That these differences do exist in the same disease, and of the same type, we all know to be fact. Who has not seen the cold fit of an intermittent, one season, the most dangerous period of the paroxysm? Who, in like manner, has not seen the hot stage the most dangerous time of the paroxysm? How those causes, which, in particular instances, dispose the heart and arteries to react less than usual in the cold fit of an intermittent, may so abound in particular seasons, as to impart a low grade of action to disease generally; and, in like manner, those which cause the heart and arteries to react in a superior degree, in the hot stage of the paroxysm, may so abound in other seasons, as to impart a general character to the diseases of that season. This, though no explanation of the specific operating cause determining the grade of action, is, nevertheless, not improbably true.

That the particular causes which do determine the grade of action in diseases generally, arise from changes going forward in the bowels of the earth, producing results in the seasons and their productions, thereby effecting corresponding changes in the element which we breathe, and impregnating the water which we drink, and giving an alteration to the vegetables in perfectibility, from which we draw in part our sustenance, as well as those animals who eat of them likewise, and from whose flesh we in part also make up our food, I think not impossible. We all know that the perfectibility of every thing depends upon the existence, in due proportions, of the elements of which it is composed, and that an alteration

in quantity, of any one of them, must result in a less perfect state of health, vigor, and salubrity in the thing itself, whether this be atmosphere, food, or drink; and that the use of the imperfect article must affect the individuals resorting to it, in an exact ratio to this imperfection or impurity existing in them at that time.

The remarkable changes in seasons and the consequent productions of the earth, together with the increase or decrease of the insect tribes, and health of animals of the lower order; together with the maturity or immaturity of vegetables, fruits, &c. which usually precede, or are cotemporaneous with any remarkable general state of disease, is in strong corroboration of this hypothesis.

I suppose, then, that those causes which in particular instances are sufficiently powerful to produce individual cases of low action (or lengthened cold fit, in intermittents,) may so abound in particular seasons, as to make disease generally assume a low grade of action, just as those causes which in other cases cause the hot stage of the paroxysm to be most fatal, may in other seasons, impart a general high toned action to the diseases of that season.

I suppose, 1st, that the causes, which, in combination with the specific causes of bilious fever, determine the grade of action in the heart and arteries to be low, effect this, by impairing the sensibility of the brain and nervous system, and thereby diminish their vital energy; consequently favour congestions of important organs (the liver in particular,) from an inability of the system in general, and of the heart in particular, to resist and react, in consequence alike of this impaired sensibility (through the brain) in this organ, to its accustomed stimulus: also to the general languor (from the same cause) of the whole system, of which the heart partakes in common with every other part.

2. That congestions, arising from this state of things, are essentially different in character from those which are attendant on a high grade of arterial action. Here directly the reverse takes place to that state of things, which is just enumerated as occurring in a low grade of arterial action. In the former the action is brought about by an increase of sensibility in the brain and nervous system, from the operation of the determining causes upon them, whereby the system in general, and the heart, in its due proportion, becomes more alive to its natural stimulus, the blood, and is excited to stronger action, hence the balance of circulation is deranged, from precisely an opposite cause and excitement, congestion or

inflammation is the result; and the hot stage of the intermittent becomes the most dangerous, for obvious reasons.

3. That as a necessary consequence of this state of things, those kinds of derangements arising from exactly opposite kinds of action, and existing in states of the system directly the reverse of each other, not admitting of the same remedial principles for their removal—that then, in fact and in truth, they are really different in kind and character, and can only be overcome, by an application of remedies, acting upon principles entirely opposite to each other, but adapted to that particular kind, character, and grade of action, attending the individual case present at that time, both being, nevertheless, bilious or miasmatic states of diseases.

This view, then, will explain to the medical public, the principles which directed my practice in that state of fever treated of by me in the 19th number of this Journal. If it is erroneous, how was it possible that the recoveries there stated to have taken place, should have happened (and the practice was eminently successful)? If, again, this practice was successful, how is it possible recoveries could have taken place under one founded upon, and conducted under the guidance of different principles? The extent to which the remedies were carried, is only calculated to startle him, who is prepared to make a surrender of his own good sense upon the shrine of authority. I presume it is the effects which a remedy produces, which should alone determine the extent to which it should be pressed. The indication for which it was resorted to not being accomplished, and the bad effects peculiar to the remedy, not having presented themselves, sound philosophy requires that we should pay no sort of consideration to quantity.

General principles, adapted to individual cases, always have, and always will, lead to successful results. Let no man suppose, that because he himself has not seen similar states of disease, that, therefore, none such have ever existed. Still more hesitatingly should he condemn any particular course of treatment, without witnessing the state of the system under which it had been found necessary to resort to it. Arrogant, indeed, would be the presumption that would lead to such a course, and conceitedly ignorant the mind that would adopt it.

Although the same disease appears different in different places and seasons, and in the same individual at different times, it is, nevertheless, precisely the same disease as to its specific character: the state of the system being changed, or

modified, in different places, and seasons, by those influencing causes and circumstances heretofore adverted to, as imparting the particular grade of action to the diseases of any particular place or season. That these changes do take place in the same family of diseases, as well as disease generally, I have only to direct the reader's attention to the notorious fact, that in one season, we can only recover our patients by means of the most powerful general depletions; while, at another, we are obliged to resort to the most potent stimuli; and, in a third, to a combination of each; there still being grades between them all, requiring almost infinite modifications, adapted to the individual states of action, whether acute, sub-acute, or typhoid.

These facts, if rightfully understood, and duly appreciated, will remove much of that rubbish and ignorance which shuts out from rational practice the cure of many diseases, and of none more than of yellow fever. The treatment of which has been, perhaps, more empirical than almost all other diseases; and, therefore, it is not at all surprising, that it should so long have continued a great waste gate to human life. When the time shall arrive, that this disease shall be treated according to general principles, adapted to the states of the system in which it may be found to exist; then and not till then, will it be deprived of much of its mortality.

Viewing, as I do, its location in the liver, I am inclined to believe that too great a reliance is placed, even in the most acute inflammatory cases, upon the lancet, and too little upon emetics and cathartics. This, in a most especial manner, I consider to be the case, where the stomach is much affected. The direct vascular connection between the liver and stomach, through the cœliac artery, as well as the known sympathy between this latter organ, and all the abdominal viscera, sufficiently attest, I think, that the disturbance of the stomach is dependent upon that of the liver, and, that the surest means of affording relief to the former, is by restoring health to the latter; and this can, in nowise, be as effectually accomplished, as by the administration of such cathartics as are best calculated to meet the grade of action present in the system at the time, aided by venesection, as a subsidiary and secondary means.

This view of the subject will also, in a great measure, account for the immense discharges from the stomach and bowels; for the violent pains of the head, loins, and bowels, occasionally occurring, as we shall hereafter show, when

treating of the different parts of the body suffering from congestion of the liver.

An unusual flow of blood being thrown upon the stomach in congested states of the liver, through the cœliac artery, the disturbance there, will be in proportion to this preternatural influx, as also will be its capillary secretions. These must continue to advance so long as the original cause continues to obstruct the natural course of the circulation; until, at length, the degree of obstruction throws such a mass of blood upon the stomach, as to produce, by its presence, inflammation, mortification, and death in that viscus.

Taking it for granted, that it will be conceded that yellow fever should be treated with a due regard to the state of the system in which it may be found to exist, rather than by the indiscriminate resort to the lancet, calomel and jalap, &c. so common in the United States, and, indeed, every where, I shall conclude what I have further to say on it, by remarking, that it is a disease always to be dreaded and feared, and one which should call forth the utmost exertions, and nicest discriminating powers of the practitioner, in adapting his means to accomplish his objects, whether he resort to emetics, cathartics, the lancet, or all three.

*Mania.*—To a certain state, and grade of congestion in the liver, would I refer the seat of mania, melancholy, nervous, and dyspeptic symptoms, which render life so uncomfortable, and, in many instances, so insupportable.

We all know the intimate association which exists between the liver and the brain; and the influence of the passions over the operations of the liver; and of the state of the liver, again, upon the passions. We are all apprised of the necessity there exists, for the due and healthy performance of the functions of the liver, toward the preservation of perfect health of body. We know that if there is a defect in this function, so all important to the well being of the man, that disease is the certain, and inevitable result; and that this disease will bear an exact proportion to the extent of error in this viscus, and be located in certain parts of the body, in preference to certain other parts, as well from sympathy, as debility of those particular parts, at the time their natural formation, and the train of thoughts, which, either accident, the occurrences of life, or the deranged state of the liver, at the time may give rise to.

If certain medicines act on certain parts of the body, in preference to certain other parts, and in different diseases, why may we not, in like manner, conclude that the different pas-

sions will, in like manner, produce a corresponding difference in effect, and result in grades of disease, of the same general character. Such I take to be the facts of the case; and it at once furnishes the clue to unravel the mystery attached to them.

The variant degrees of derangement, either functional, or otherwise, in the liver, must be attended by a like variance in effect, and this variance is again increased or diminished, by the particular capacity of the vessels of the brain, the temperament, &c. of the individual; hence, we have all the variety, from the furious maniac, down to the hypochondriac, and dyspeptic.

Mania is often an hereditary disease, none is more frequently so than the various diseased states of the liver. If I were called on to designate the disease more uniformly transmitted to posterity than another, I would, most unquestionably, pronounce the diseased states of the liver, to be that one. I have so often seen it the case, and witnessed so many instances of it in practice, that I am not allowed a doubt upon the subject. Congestions of the liver, very certainly create corresponding determinations to other parts of the body, and when, from the particular form of the vessels of the brain, their debility, or the presence of the appropriate passions, that viscus is drawn into sympathy with the liver, acts on, and is acted upon, in its turn, by the condition of the liver itself, or its appropriate fluid, we may readily conceive that the brain will not be in that condition, which enables the individual to view matters and things, precisely as in fact, and in truth, they really are; but that, as the seat of the nerves, whose functions are impaired by the injury suffering by the brain, they are not in a condition to give a true report to the sensorium itself.

The little efficacy of remedies applied directly to the brain, towards removing this train of diseased symptoms, would seem to point out some other source for their origin. If we look at that relief, which is afforded under a system of practice founded upon the view of the subject here taken, we shall feel some little inclination to believe, that, perhaps, the tribe of diseases here treated of, grow out of hepatic derangement.

In illustration of the truth of this suggestion I will state, that some years ago two brothers, at different intervals, became furious maniacs. They were both evidently suffering under hepatic derangement, as it was a family disease. In the last case an abscess formed in the liver, and a few days preceding death, burst into the stomach. In this instance

joy was the exciting cause of derangement. He had speculated largely in tobacco while low, and sold it at a great advance. His good fortune cost him his life. In the same family one of the sons, under religious impressions, has showed a disposition to be, what is termed "cracked." He is unquestionably hepatic. All the members of this numerous family are melancholic, and subject to violent pains of the head. All have countenances at times remarkably florid; two of the sisters and a niece have died apopletic. This position is also supported by the following fact: In a family evidently hepatic throughout all its members, two of the brothers have been partially deranged; one has attempted suicide, and the other is at this time also in some degree maniacal. See practical remarks at the close of this paper.

*Rheumatism.*—To the liver I would, in like manner, refer the original seat of rheumatism. Its effects, we know, are mostly felt in the joints, and along the tracks of the muscles. I infer that the liver is the seat of this disease, from the well known fact, that in the incipient stages of all bilious diseases, rheumatic symptoms constitute a remarkable and prominent class of symptoms; so much so indeed, as, in some instances, to have imparted to the disease the name of the "break bone fever." This inference is, further, strengthened from the known inefficacy of the most approved methods of treating the severer cases under a different view of the subject: add to which, that bark has been found, some times, successful, which is also true in cases where we even know an actual enlargement of the liver is present, and that successive paroxysms will but increase it. Its truth is farther inferred from the notorious fact, that as you advance in freeing the liver in bilious diseases, so in like manner, do you remove the attending rheumatic symptoms. This is, again, rendered more probable from the fact, that the rheumatic symptoms increase and diminish in an exact ratio to that state and condition of the system which is best calculated to keep up the balance of the circulation between the surface and the interior.

A practice founded upon this view of the subject, has, in my hands, been eminently successful. A remarkable case of a black man, who had an attack of yellow fever, in Orleans, fell under my care. He had been ill for about two or three years, and a dislocation of one of the shoulders had been the result of the severe and violent contraction of the muscles. He had, in vain, tried all the most approved courses under able physicians. He received no benefit. I directed him to loose blood every second day, from the arm, and on

the intervening day administered calomel and jalap, worked off by an infusion of salts and senna. His recovery was completed in about four months. Upon the supposition of its being of hepatic origin only, can we account for the beneficial effects of calomel and opium, in the hands of Dr. Fothergill, of illustrious memory. The particular manner in which the rheumatic symptoms are occasioned by the congested state of the liver, I do not know; it is sufficient to know that the fact does exist, and may be removed by a resort to those principles of cure I shall, by and by, lay down, as applicable in all the states and degrees of derangement in this viscus.

*Catamenia.*—Many of the cases of suppression, retention, and deficient menstruation, are the effect of hepatic derangement. In these cases relief is only to be had by a removal of the original disease itself.

This view of the subject will, in a great measure, account for the perplexity of the practitioner in the management of those cases which not unfrequently baffle his utmost exertions; not so much from the real incurable nature of the disease itself, as from an imperfect knowledge of the cause which constitutes it so. The balance of the circulation between the different abdominal and pelvic viscera being destroyed by the deranged state of the liver, this viscus acts as a sponge upon the uterus at one time, and at another, as an excitant, occasioning flooding, according to the extent and kind of injury it may itself be suffering at those times. Practical remarks hereafter.

*Apoplexy*, *Paralysis*, and *Hydrocephalus.*—These diseases, not unfrequently, arise from a congested state of the liver. The two former, I apprehend, much more frequently than is anticipated, and more especially paralysis, or that state of the system ending in paralysis. I apprehend this to be the fact for that state of the liver I shall, by and by, disclose as affecting the vessels of the brain with congestion; also from the little success which attends a practice founded upon a different view of these subjects. No one recovers a third attack of apoplexy, few a first one. In these diseases the lancet is the primary remedy trusted to, and that it should fail in such states of the system, I shall hereafter *prove* to be *inevitable*. The same may be said of hydrocephalus, which, like the former, is almost uniformly fatal; and all, I apprehend from an incorrect pathological view of these diseases; they being, generally, referred to the brain as their seat, when in fact and in truth, they are all located in the liver, and arise

exclusively, from a congested state of this viscus producing a secondary state of congestion in and effusion on the brain, as I will note hereafter.

*Simulated Consumption.*—I come now to another train of symptoms, which I design to treat of as growing out of congested hepatitis.

In an especial manner I invite the serious attention of the profession to this chapter; believing, as I do, that it is less understood, and indeed rarely even looked to, by a great majority of practitioners, as exerting the smallest influence over the fate of their unfortunate patients; when, in truth, it is the corner stone, the pillar upon which rests all their complaints, and upon the removal of which, alone, can they hope for relief from their sufferings. Upon me they have made a deep, and a lasting impression, by being the means through which one of the dearest ties of this life has been severed; as the means through which some of my nearest relations have gone home, and as the means by which some of my earliest, best, and most esteemed friends have gone to that "bourne whence no traveller returns;" and through which I myself was reduced to the verge of the grave, before I detected the real nature of the calamity which had so sorely afflicted them and myself.

I here allude to simulated cases of consumption, in which the liver is the original seat of disease; but which, from neglect, bad management, or hereditary formation, spend their greatest fury in a secondary attack upon the lungs.

I have, before, remarked, that of all the diseases to which the human family were liable, there were none as uniformly transmitted to posterity, as hepatic derangement. I could, were it necessary, name *dozens* of families to verify the remark. An omission to notice it has, no doubt, in thousands of instances, precluded even the idea that the liver was in fault, as the "fons, et origo mali."

Of this class of cases, I think it probable, were those latterly stated in a number of this Journal, by that distinguished physician, Dr. Cook of Winchester, Virginia; and of the same class of cases were those twelve, by Dr. Rush, of illustrious memory, with mercurials, venesection, &c. and of this description of cases, do I believe ninety-nine out of every hundred are, which occur when there is no scrofulous taint in the system. Consequently, that the hitherto uniformly fatal tendency of the disease is attributable more to an unsound and incorrect pathological view of them, than to the really incur-

able nature of the cases themselves, when properly understood and correctly treated. Let us therefore but rarely "give up the ship;" rather let us cease to view consumption as alike hopeless in its progress and certain in its issue; as not defying the powers of medicine, and the skill of the physician; as in some degree ceasing to be one of the "opprobria medicorum" for even tubercular phthisis can be *almost* cured with arsenic and cicuta.

These cases are often most insidious in their approach, and progress, and the patient not unfrequently finds himself seriously indisposed, before he is fully aware of his danger. The application of a few remedies now affords a temporary relief from his complaints, and he flatters himself that he is well, until, upon a slight exposure, or a little irregularity in regimen, he is admonished that the enemy is still at work upon his vitals. He again has recourse to his remedies, which again benefits, without extinguishing his disease: he goes forward, and indulges his propensities in eating, drinking, and exercise, perhaps for many years, never exactly well, nor yet sick, but always more or less troubled with a shortness of breath, frequent, and difficult screatus, occasional wandering pains of the body resembling rheumatism, some times numbness of the head, and soreness of the eyes: irregular appetite, slow bowels, dry scanty stools, slight hemorrhois, occasional cough, slight pain of the shoulder, numbness of the arm, frequent picking of scabs from the nose, sense of fulness about the chest, interrupted sleep, cold feet and hands, unusual heat about the head, breast, and trunk of the body: tense, hard pulse, and an occasional sudden disposition to eject from the stomach by vomiting, any gross article of diet that may have been taken. All these symptoms go on to increase. The screatus is converted into a cough, at first slight and dry, the numbness of the head is changed into occasional severe pain, the eyeballs become sore and tender, the bowels are moved but seldom, unless by medicine, and the stools wear, in some degree, the appearance of scybala, sometimes covered with a strong mucus, and discharged after considerable straining; the appetite is more impaired, yet often voracious, the ejecta bearing no proportion to the ingesta, a more general and indescribable uneasiness and fulness is experienced, and occasionally, the pain about the shoulder is more severe, and there is a corded sensation across the breast, about the pit of the stomach, with an increase in the force of the pulse. Now it is, that the disease begins to excite serious uneasiness in the patient; yet, to look at him, his appearance differs but little

from that of perfect health, and he is laughed at as being hypochondriac, or only dyspeptic. From a neglect of the proper means, all these symptoms continue to increase in severity. The cough becomes frequent, harsh, and now and then a blood vessel gives way in the lungs, after two or three days previous and unusual fulness there, accompanied with an unusual shortness of breath, from the slightest exertion either in motion or speaking. The pains of the breast are more severe, that of the head is often intense, and a fit of coughing comes on, which, not unfrequently lasts several hours, and is at last terminated by a perspiration more or less general, more the result of the exercise in coughing, than the natural crisis of the paroxysm. There is now frequently a defect complained of in vision, yet the eyes look healthy and well, and no intolerance of light is complained of. The heat about the head, breast, and trunk of the body increases and becomes once or oftener, every day, very intense, while the coldness of the extremities goes on increasing in a corresponding degree. The pulse is either hard and bounding, or greatly oppressed, generally the latter. Much restlessness and indescribable anxiety now torment the patient. All these symptoms go on increasing; the discharge of blood from the lungs is more frequent and copious; the cough is more frequent, and at last attended with a copious expectoration of a thick, viscid, yellow mucus. The voice is hoarse, and the breathing, upon the least motion or exercise, becomes panting, and the patient is frequently obliged to take breath between the intervals in pronouncing the syllables of the same word. Hectic fever and night sweats come on, and all the symptoms and appearances in genuine idiopathic phthisis supervene, and close the tragedy.

The foregoing is the most insidious mode of attack and progress, and it is not unfrequently the case, that years intervene between its commencement and termination; the wretched patient all the time vacillating between a state of health, just enabling him to keep out of bed, but not sufficiently good to allow of the active pursuits of life; merely corroding his mind with uneasy sensations, and in this way adding force to his disease.

In other instances again, the attack of the lungs succeeds shortly upon the recovery from a bilious fever. In others again, it comes on where no previous fever existed to call it into existence, while in others a common cold seems sufficient to set the fell monster at work.

In these cases the disease runs its course much more rapidly,

and we are less at a loss to ascertain the real character of the disease. The previous fever, the particular form of the body, hereditary predisposition, and cough harsh and dry in the early stages, with the slow bowels, dry and scanty stools, all sufficiently apprise us of the approach of danger, and also of its character and seat.

It is, in an especial manner, to that insidious mode of attack already stated, that I would call the attention of the profession, from a thorough conviction that the real malady is rarely suspected, and from a belief that where the proper means are duly applied, the patient may almost always be rescued from otherwise inevitable death, of the worst, most lingering, and distressing kind.

*Pathology and Ratio Symptomatum.*—That the liver is the original seat of these cases, I infer, as well from the post mortem examinations, as from the symptoms themselves, the appearance of the persons labouring under them. The efficacy of remedies prescribed, with a view of *correcting* the faulty condition of the liver, and the inutility of those applied to the lungs alone; the success of the former being almost as uniform as the want of it in the latter, is notorious. The base of the liver becomes smaller and presses upon the diaphragm; lessens the cavity of the chest, and proves a permanent source of irritation to the lungs. I have seen the base of the right lobe of the liver so much enlarged as to occupy nearly the whole of the site occupied in the healthy state by the right lobe of the lungs. In the same case the left lobe of the liver was about of the natural size, but the left lung was preternaturally enlarged, throwing the heart over on the right side: There was much ulceration in this lobe, and a reticular appearance in it, through which issued, upon pressure, matter. The appearance of the substance of the liver was firmer, more dense and compact than usual. The pancreas was very small, hardened, and of a pale, marbled, colour. The whole of the mesenteric glands were enlarged, and a more beautiful state of injection of all the vessels, exhibiting the greatest possible degree of congestion, could not have been made by art. I have seen many other post mortem appearances; in all of which the base of the liver was much enlarged, and its substance harder and firmer than in its natural state. The lungs, at the same time, exhibiting disease and ulceration; and in some few instances, adhesions to the pleura, and abscess, which broke externally in the axilla. In one instance there was adhesion of the liver to the peritoneum, and also to the

diaphragm, stomach, and mesentery. This case succeeded to an ill-cured bilious pleurisy.

The secondary affection of the lungs, I presume, comes on in the following manner, viz. the liver being in a state of congestion, in consequence of which the usual course of the circulation through it becomes impeded, whereby an additional quantity of blood is thrown back upon the heart. The blood being the natural stimulus of this organ; it is excited to increased action, as well from the presence of an increased quantity of this its natural stimulus, as from the stimulus of distention, to overcome the resistance opposed, by the state of the liver, until the vessels of the liver are filled to their utmost capacity to bear. In this state of things the heart, in its contractions, is unable to empty itself, or to admit the blood pressing on it for admission from the lungs. Congestion here, is then the natural and inevitable result: and if the cavity of the chest, at the same time, be diminished by the pressure upwards of the enlarged base of the liver, so much the more rapid will be the increase of this congestion, from an obvious cause, viz. the compressed state of the lungs not admitting of expansion, and therefore incapable of containing in their vessels the same quantity of blood they would do, if expanded. The vessels here being over-distended with blood, a sense of fulness and difficulty of breathing is inevitable. An increased quantity of mucus, from an increase of blood in the vessels, and its effects on the secretions, occasions a screatus. The state of the liver remaining unaltered, the increase of congestion in the lungs is of course increased, until the vessels give way, and partial relief is afforded by the discharge of blood from them.

During this state of the lungs, it follows, as matter of course, that they oppose the same sort of resistance to the admission of blood into them that was made by the liver; and hence, from precisely similar causes, the descending vena cava are unable freely to empty their blood into the right side of the heart, and a congestion of the brain follows, as a matter of course.

I will here digress a little, for the purpose of calling the reader's attention to the manner in which congested hepatitis may so influence the brain, as to bring on mania, &c., before adverted to. Now if the brain is the weak part of the system; if the exercise of much thought causes an increase of activity in the vessels of this organ; if the natural form of the head and neck, and vessels tend to this state of things, we can at

once conceive how the brain would suffer, so as to produce mania, &c., apoplexy, &c., without a material injury previously accruing to the lungs.

To return. The lungs being nearer the original seat of disease; the whole blood of the body being compelled to pass through them, at short intervals; their texture being delicate and highly sensible, it is natural to suppose, all other things equal, that they should suffer first and most.

The head, oppressed with an over-load of blood, is excited to inordinate action to free itself; the increased quantity of blood in the lungs excites an increase of mucus, which irritates, and cough follows upon the back of the screatus. The concussion produces the rupture of a larger blood vessel, inflammation follows, an abscess is formed, matter is absorbed, hectic ensues, the state of the liver remaining unaltered and unattended to, and even unsuspected, death is the certain and unavoidable result.

From this view of the subject, the enlightened pathologist will be at no loss to account for the increase in the tension of the pulse, the heat of the head and trunk of the body, the coldness of the extremities, pain of the head, fulness of the chest, and dyspeptic state of the stomach; which latter, it perhaps would not be much amiss to enlarge a little on.

The state of the liver not admitting of a healthy discharge of function, the bile is secreted in too small quantity, and costiveness is the consequence. The accumulations in the intestines become a source of irritation to the system in general, and to the stomach in particular, and impair its digestive powers. By their *bulk* they alike impede the flow of blood through the descending aorta, and the ascending vena cava: the consequence is, an undue proportion is sent off through the ascending aorta to the brain, and an impediment, at the same time, is opposed to the ascent of the blood through the ascending vena cava. Hemorrhois is now either established or increased. If I were again allowed to digress, I would certainly locate this latter disease also in the liver. We all know the symptoms which attend upon it, the utility of a cure, by excision, where the constitution is implicated. Why this should be fatal, the preceding view, just presented, will sufficiently explain, especially if we look to this condition of the rectum, as being the reservoir, and in some instances the outlet to the constitutional derangement, occasioned by the state of things already adverted to.

*General plan of cure.*

Although the grades of action, and degress of congestion, accompanying them, be almost infinite; yet, for all practical purposes, it is only necessary for me to direct the reader's attention to those of a high, and those of a low grade; the intermediate degrees only requiring an adaptation of the same general principles, as the individual cases may approach the one kind or the other.

Now the healthy circulation of the blood through the body depends upon the due maintenance of the propelling power of the heart and arteries, and the resisting ones of the veins. Whatever disturbs this equilibrium results in congestion somewhere, determined in degree by the operating cause, and influenced, in grade of action, by those causes which, at that time, impart a tone to the character of disease generally, in the manner heretofore pointed out.

If, in one instance, these causes are of that description of agents which increase the sensibility of the nervous system generally, the heart, acted upon through this system, receives an increase of sensibility, and becomes more alive to the stimulus of its ordinary quantity of blood passing through it; hence it is, with the arteries, excited to an increased activity and force in its contractions, by means of which, the resistance opposed by the less sensible veins is overcome, and a disease of a high grade of arterial action becomes established.

If, again, on the contrary, these causes are of that description of agents which lessen and impair the sensibility of the nervous system, the heart and arteries, partaking of this state of things, become less sensible to the same quantity of blood passing through them; their action becomes more languid and feeble: and the veins are, in a great measure, deprived of their vis a tergo, imparted to their contents by an active contraction of the heart and arteries, and of course great congestion takes place, precisely from an opposite cause to that just before stated in the preceding paragraph.

These two distinct states of the system, terminating in precisely the same result, viz. congestion, from exactly opposite causes, abundantly proves to us the very dissimilar treatment which is called for, even in the same disease, occurring in different seasons, although the disease itself always originates from the same specific cause, and maintains the same general character in every respect, but that of the accompanying grade of action of the heart and arteries.

In the former of these, a cure is only to be effected by depletion, general and local, or those remedies which lessen the action of the heart and arteries.

In the latter case, the same object is only to be accomplished by adding force and activity to the heart and arteries, and an omission to apply local means till these be first roused to action. The extent to which either course of treatment should be carried, will depend exclusively upon the grade of action to be overcome, or best elevated and sustained, in individual cases. The requisite and simultaneous union of depletion and stimulation, in some cases, pointing out the line of demarcation, where the one kind of action terminates, and the other commences.

With these truths before him, and a knowledge of the organ implicated, the physician can scarcely go amiss in the correct treatment of his patient; unless, indeed, as is sometimes the case, he pays too much attention to the state of the pulse, and too little to the organ diseased; in those cases attended more especially with a high grade of action.

Although the pulse is the "dial plate" of the system, yet it is sometimes, like "folly in old age," directing our attention to a symptom which the lancet cannot overcome of itself. In cases of this description, excessive bleeding but tends to secure the doom of the patient, by increasing the force of his disease. You may bleed him to death; and yet, although he dies of exhaustion, the last stroke of his pulse will be hard and tense.

This is easily explained. The excessive loss of blood relaxes the system in general, and the congested vessels in their due proportion; hence the congested organ, not being relieved by the general depletion alone, admits, from relaxation, of an increase of congestion, and by throwing back the circulation from this cause, continues to act as an irritant upon the heart; which, from this increase of stimulus, by distention, not being allowed to feel the relaxing effects of the bleedings, still forces on the circulation, in its endeavours to free itself from this additional load of blood rushing upon it: and hence it is obvious, that as you continue to place the congested vessels in a state to receive more blood, by their relaxation, in the same degree do you increase the flow of blood back upon the heart, and in the some degree will this be excited to additional exertion to free itself, until, in the contest, the patient sinks.

I would particularly direct the attention of the profession to the last paragraph. The doctrine there laid down is cer-

tainly true, and the want of a knowledge of this truth has been the cause of the death of thousands. I once, in the county of Brunswick, (Va.) saved a patient by adhering to it, and acting upon it, in opposition to the wishes of a medical gentleman there. I was afterwards scouted at by a person, who thought it the height of folly to say, that a strong and hard pulse could be present at the same time, and in the same individual, and yet that individual be in the last state of exhaustion, from the excessive use of the lancet.

The scientific physician looks to the causes which excite the symptoms, and knows, that when these are removed, the symptoms can no longer present themselves before him; whilst he who does not look far enough, is always perplexed in ridding himself of symptoms, without once adverting to their origin.

In those cases attended by a high grade of arterial action, two indications are present.

1. To diminish the general excitement of the heart and arteries.

2. To relieve the organ implicated.

The first indication is to be accomplished by blood-letting, determined in quantity and frequency of repetition by the degree of excitement present, and the effects resulting from the loss of blood already let.

The second indication is to be answered, by abstracting from the organ itself a portion of that blood with which it is already overloaded. This is to be effected by blistering, cupping, leeching, &c., but mainly through the intervention of cathartics, acting upon the exhalants of the organ itself, and increasing thereby the quantum thrown off by them. In this way, cathartics become a remedy of primary importance in the treatment of all visceral congestions, as well from their exciting effects upon the exhalants, as from their effects in freeing the bowels from the presence of these accumulations, which act, at the same time, as an irritant upon that canal and the system in general, as well as an impediment to the circulation, in the manner heretofore explained.

In the treatment of the simulated cases of phthisis, this view of the principles of treatment should always be before the eyes of the practitioner.

When the physician is first called in, his care should be to make a due impression upon the heart and arteries, by diminishing the quantum of blood passing through them. In this stage of the cure, the lancet is the primary remedy, and is greatly aided by active purging combined with its use.

This impression being made, the lancet becomes the secondary remedy, and cathartics assume the first consideration. Judiciously administered, and sedulously persevered in, aided by an occasional bleeding, cupping, leeching, and blistering, they will but rarely disappoint our expectations. Nevertheless, much judgment and nice discrimination are often requisite, as well in their relations being adapted to the individual case, as also to their manner of administration, and consequent effect produced by them, as well to quantity as quality of the dejections brought away.

If we content ourselves with administering two or three full cathartic portions in the twenty-four hours, bringing off, by their operation, large liquid stools, we shall almost always find ourselves disappointed in the good effects we anticipated from the operation of the cathartic. The severity of the operation leaves the exhalants in an exhausted state; time is essentially necessary for them to recover their tone; and, while this is passing on, these exhausted vessels cease the performance of their functions; and, the action of the heart continuing, an increase of the congestion is absolutely inevitable.

We are here presented with proof which shows, that neither excessive bleeding, nor excessive purgation, of themselves, in these states of disease, can keep down the pulse, although the patient may die of exhaustion under their use.

The system, in these states of disease, may be, not inaptly, compared to a musical instrument tuned too high. To produce harmony, each chord must bear its relative proportion of tension to the next one. If either is stretched too tightly, or left too flat, discord is the result. So with the heart and arteries, and the exhalants of the congested organ. Something like an equilibrium must be maintained between them, or an increase of disease is inevitable.

Where there is much general or local excitement, the more stimulating cathartics are inadmissible; and here the neutral salts are proper. The kind of cathartic, however, must vary according to the object we have in view to be accomplished by their operation; whether this be to effect full aqueous stools, to dislodge simply the accumulations from the bowels, or to act specifically upon the liver. In the course of treating any one case, all three of these indications will arise at different times, and the same kind of medicine will not answer them all; hence, a change becomes necessary—when and how, must be left to the judgment and discretion of the prac-

titioner, and there is an ample field for their judicious exercise.

In the administration of those cathartics which we design to use, there is much discretion needed. In order to avail ourselves of all the benefits which cathartics are here capable of affording us, we should so administer them, as that while we ensure a free operation, we, at the same time, procure these operations in such quantities, and at such stated intervals in the twenty-four hours, as will not produce exhaustion of the exhalants, and yet diminish the excitement of the heart.

In this way, we are detracting from the accumulation in the congested organ itself; while, in relieving this, we, in the same proportion, remove a source of irritation from the heart, by taking away that impediment which excited its action, and prevented, by its effects, the freeing of the implicated organ from its congested state.

In adapting the extent of venesection, and the kind of cathartic, and its effects to the individual cases and states of excitement present, consists the only difficulty in the treatment of all the diseases treated of in this paper. In regulating these, every thing must depend upon the judgment and skill of the physician. By a close attention to the state of his patient, and a vigilant attention to the appearance of the stools, with a strict regard to the effect of remedies already administered, he will find much to aid him in advancing the cure of his patient.

I have said nothing of sudorifics in the treatment of these cases. It is vain to expect any good from them, while there is much excitement present in the system; when this is taken off they are not needed, the circulation spontaneously restores the skin to its function. I would therefore advise nothing more, to answer this indication, than moderately warm clothing.

The application of blisters, cupping, and leeching, no one can be at a loss how to apply.

We come now to treat of those states of congestion which are the consequence of a low grade of action in the heart and arteries. The principles which apply here are precisely and diametrically opposite to those which hold good in the preceding kind of congestion, from high arterial action. In these, viz. the low grade of action, the congestion is the consequence of the *feeble action* of the heart and arteries. Here, then the first object in view is to impart *additional* vigour and tone to the heart and arteries, and this is only to be accom-

plished through the agency of the general nervous system, without regard at all to local considerations, except in so much as these may have an influence upon the general system :—Because, 1st. The relieving of the congestion by local means, if practicable, would in no wise *contribute* to the recovery of the patient, as long as the languid action of the heart and arteries continued. The same cause continuing to result in the same effect. 2d. The languid action of the heart and arteries (the consequence of an impaired sensibility in the nervous system generally) can alone be restored by restoring that lost sensibility; and this is only to be effected through the agency of stimulants, applied so as to produce an effect upon the whole system, and through it upon particular parts, in their relative proportion.

Now, as soon as the heart and arteries have commenced a vigorous action, they have begun the performance of their duty; and it is then requisite to aid them, by the application of local means, to remove from the real seat of congestion, what, if suffered to remain, would, by its irritating influence on the heart, change the congestion into one like the first named kind; and, with this view, it becomes, secondarily, necessary to resort to local means in aid of the general ones; hence local bleedings, leechings, blisterings, and cathartics, become indicated, in proportion to the degree of reaction previously established in the heart and arteries.

Upon no other principles can these cases be successfully treated. I would call the reader's attention, in a particular manner, to this view of the subject. It will well repay the attention he may bestow upon it.

The principles here laid down will remove all the mystery and imputed folly attached by ignorance to my treatment of the fever, in the 19th No. of this Journal.

The discerning physician will at once see, that had I endeavoured to overcome the disease by evacuants in the first instance, that I should have precluded, in many cases, the possibility of recovery in my patients, by increasing what was already too low, viz. the action of the heart and arteries, and thereby added force to the original cause of the disease I was vainly endeavouring to remove. This is too plain to be misunderstood by any one.

Had I resorted to evacuants in the first instance, in the severer cases of the disease, I should have been obliged to have precipitated the death of my patient. By substituting stimulants, I roused to action the heart and arteries in the first instance; and my way was made plain and easy.

Every rational man will admit, that the extent to which tonics and stimulants should have been carried in that fever, as as well as in all others, will depend exclusively upon the degree of lost tone and action to be restored and maintained, in individual cases; and that to stop short of these, is to do nothing towards the relief of the patient.

I have here presented the reader with two distinct states of the system, terminating in precisely the same result, but from exactly opposite causes. When they come to be properly appreciated, and suffered to have their due consideration in the treatment of congestive diseases, then, and not till then, will their importance be fully developed, by the successful results growing out of their proper observance, and judicious application.

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ART. III. *On Ovarian Disease.* By Dr. W. G. REYNOLDS, of New-York.

MRS. HUNT, aged thirty-five years, of a cheerful, happy disposition, and well formed, had borne several healthy children. In April, 1825, I first saw her, and became her sole and constant medical attendant till her death. The gentleman who had previously attended, confessed that his view of the case had been different from that which I expressed: that he had considered it a *mole or false conception*, and had directed his treatment accordingly. From my first visit, he discontinued (perhaps from the hopeless nature of the case) all farther attendance.

The external appearance was that of a case of gestation arrived at its full period; but, on examination per vaginam, I found the uterus rather small and flaccid, pressed up against the pubes, the upper portion of the vagina raised forward, and a firm resistance superiorly and posteriorly to the ends of the fingers. The bowels were regular; appetite and digestion good; catamenia irregular in time and quantity, and they soon ceased altogether.

The tumour was immovable, and in most parts quite firm; it evinced no pain on pressure, except in one point, on a line horizontal with the umbilicus, on the right side, and equidistant between it and the anterior superior spinous process of the ilium. At this point the pain was pretty acute on pres-

sure, and in the course of her suffering became exceedingly severe at times. The respiration scarcely affected. The countenance a little pale. The pulse rather quicker and weak than to bespeak good health, but no evidence of any disease of the system.

I did not hesitate to pronounce it a case of ovarian enlargement, and viewed it as altogether hopeless; yet held a consoling language to the unfortunate subject; suffering her to believe, that the progress of disease might possibly be suspended for an indefinite period of time. I could fix upon no plan of treatment likely to afford relief; yet something must be done, if only to soothe the mind. I therefore determined to try the effects of iodine, which, on the testimony of Dr. Coindet of Geneva. Dr. Manson* of Nottingham, and others, is a most powerful excitant of the absorbent system. The following formula was directed, viz.

℞ Iodine grs. xlviij.
Alcohol ℥ij. M.

Take ten drops three times a day, in a little simple water, increasing six drops daily till the symptoms forbid. The dose was daily enlarged, till seventy drops, three times a day, were regularly taken for several days. I then ordered ℥ss. digitalis purp. to be boiled in a pint of water down to half a pint, to add one ounce of alcohol, to strain it, and give a tablespoon-ful every three or four hours, till nausea, catharsis, or giddiness comes on. After thirty hours, some nausea, with irregular slow pulse and purging, supervened, and slowly wore off at the end of the third day. The iodine was resumed for three days, and in turn the digitalis, both of which became very loathsome. The iodine produced unpleasant feverish symptoms, and the digitalis extreme nausea; but their joint agency seemed to reduce the thickness of the abdomen four or five inches. Here, however, the apparent good effect of this remedy ended, and the system seemed to lose all susceptibility to its farther impression. In about two weeks the tumour began to increase in size, and nothing that could be devised afterwards tended in the least to check its progress.

A roller bandage was advised with my first prescription, and now the weight becoming inconvenient, I adapted a strong

* Dr. Manson thinks iodine does not act by absorption, as many suppose, but by lessening and destroying the morbid action which induces the disease.

linen suspensory, embracing the most prominent and lower part of the tumour, to fasten firmly round the small of the back, and receive straps leading over the shoulders. This added to the comfort and convenience of the patient.

Finding the disease increase rapidly in September, I revolved in my mind the expediency of an operation for its removal, but the interposition of surgery afforded no prospect of recovery. Death without an operation was certain, and with it almost equally so, with the addition of responsibility. My ignorance of the precise state of the part to be removed; the extent of its connexion with the body, its adhesions to the surrounding parts, insuring subsequent inflammation, &c., all conspired to exclude any rational hope of recovery from an operation. I however invited Dr. Cheeseman, Dr. Baxter, and other medical gentlemen whose opinions I held in high esteem, to see the case; and these coinciding with my own views precisely, all thoughts of an operation were laid aside.

From this time (about the middle of September) a palliative treatment was all that was attempted. Tedious and imperfect micturition increased, and became a very troublesome symptom. Paroxysms of dyspnœa began to occur at intervals of sixteen or twenty days, and increased in frequency and duration at every repetition. Great tenderness and pain, on every attack, at the point above designated. The feet began to swell: the bowels much constipated, and the appetite gradually failed altogether. The body becoming much emaciated, and nature quite exhausted. This unhappy lady, with the composure and hope of a christian, and a firmness that no philosophy could transcend, sunk under a great accumulation of sufferings, on the 24th of December.

*Examination of the body, six hours after death.*

On separating the parietes of the abdomen anteriorly, the omentum presented to my view a most frightful elongation, extending quite to the pubes, in wrinkling folds near its lower margin. Its veins were numerous, greatly convoluted, and some of them as large as turkey quills, with a reddening appearance over the whole surface, that marked the presence of slow or sub-acute inflammation. Its adherence to the tumour, in front, was so firm as to require the knife in several places, the fingers or handle of the scalpel being insufficient to separate them. On removing the omentum, the tumour was found occupying the whole abdominal cavity, running

low down into the pelvis in the form of a cone, and of the texture of scirrhus; pressing the fundus uteri, which was small and flaccid, over the anterior brim of the pelvis. The urethra, also, was so tightly pressed, as to clearly account for the ischuria suffered by the patient. The upper part of the tumour pressed the intestines and liver so firmly against the diaphragm, as to impede the play of that organ in respiration; hence was explained the relief obtained by cathartics in paroxysms of dyspnœa. To the intestines the adhesions were not very firm; but laterally, to the peritoneum, they were extensive and very strong, requiring much force of the fingers, and sometimes the knife, to separate them: posteriorly the attachments easily yielded to the fingers, and I rolled out the huge mass almost without the aid of the knife. Both ovaria had run into one shapeless lump of heterogeneous substance, that would have more than filled a half bushel. After discharging some quarts of fluid, semi-fluid, and gelatinous matter, from several sacculæ annexed to it, we adjudged it to weigh near twenty pounds. Its attachment to the body was by two pedicles, not larger than a finger, on the original site of the ovaria.

The patient had uniformly answered, to our interrogations respecting the liver, that she had not been sensible of any disease there, nor did the state of the stomach or bowels betray any derangement in the biliary secretions; yet we found the liver studded with twenty or more tubercles, as large as hazlenuts, of a semi-pellucid yellow appearance, and scirrhous texture. How far this appearance might have been the effect of undue pressure on the liver, can only be surmised. This organ was perfectly healthy in colour and dimensions.

Several quarts of water escaped from the abdomen on the first incision; a small quantity was found in the thorax, possibly deposited during the long protracted paroxysm of dyspnœa preceding death. The heart and appendages, the lungs, and other viscera, were all healthy.

Besides the contents of the sacculæ above named, the tumour consisted of an incongruous mass of sarcomatous, scirrhous, cheesy, and gelatinous fluid-like pus; but the indurated parts were in the proportion of more than four to one of the soft parts.

The practitioner who conceives the perfection of surgery to consist in mere manual dexterity, and bases his claims to merit on the number or intrepidity of his operations, may find in ovarian enlargements a tempting subject for the display of

his art. But the experienced reflecting surgeon, who coolly calculates the chances of recovery, and whose leading motives are the lessening of pain and procuring of comfort and recovery to his patient, will pause before he grapples with disease presenting in the formidable form of the above case. It requires but a moderate portion of professional sagacity to decide on the inapplicability of a surgical operation in like cases. Should the constitution really withstand the shock, which the rude mangling and exposure of viscera, and the withdrawing the stimulus of distention, must necessarily subject it to; still almost inevitable death lurks behind in the form of peritoneal or visceral inflammation. If we ever indulge a hope of success in the operation, it must be in the earlier stages of the disease, and before the constitution (originally good) has been brought to suffer under the morbid affection; and, what is all important, where a pretty clear diagnosis can be drawn.

The surgery of the present day triumphantly boasts a perfection never heretofore attained. Let the Chesseldens, the Monroes, Hunters, Potts, Bells, and a host of others, return and ask, In what do you exceed us, gentlemen? You have, it is true, tried nature to the top of her bents; your knives have *delved* deeper into the human body, and have more familiarly approached parts essential to life, than we had thought consistent with safe and salutary measures; but has your bold efforts left sufficient evidence of the proficiency of your measures? Are you well assured, that in your daring experiments to rival each other, you do not impinge the unalienable birthright of humanity? Has the result of your tying the aorta, internal iliac, the arteria innominata, extirpating the uterus, and the ovaria by ripping up the whole length of the abdomen, amputation at the hip joint, &c. &c., convinced you that ye have not inflicted more misery than was commensurate with all the benefit derived from these unprecedented and cruel operations? Beware, lest ye rush on the "flaming sword that guards the tree of life!"

But to the subject. M. Lizars, of Edinburgh, has recently furnished us with four cases of ovarial diease, operated upon for the removal of the morbid growth. The first case, in 1821, I regret to say, is not sufficiently clear to my mind. The patient was too sorely afflicted to follow her ordinary, or any occupation, and sought relief from sundry practitioners, and in different hospitals. The tumour was large, moveable, and palpable. She had been twice tapped for ovarial dropsy, but with what relief, or what discharge followed, is not stated.

And, in the operation, although he incised from near the ensiform cartilage to the crista of the pubes, found nothing of the tumour he was in quest of, and no equivalent was removed: yet she returned, in due time, to her employment of shoe-binding, with no other inconvenience mentioned than occasional pain. M. Lizars, whose talents we duly respect, would have given satisfaction, had he stated in what way he conceived the incision to have affected the recovery. Of his other three cases, one expired at the end of fifty-six hours from the operation; the other two were stated to be convalescent at the time of the report. I should like to have a confirmation of the complete recovery of either of these cases now, at the end of one year from their occurrence.

Appended to M. Lizars', are three cases of ovarial disease from the pen of Dr. M'Dowal, of Danville, Kentucky. Success attended the operation in each of these cases, with apparently but little more inconvenience than is felt from a venesection of the arm. The editor of one of the London journals rather sneeringly notices these cases: and I must confess, that as they now stand, I regard them as rather equivocal.

Dr. M'Dowal will, however, no doubt, reply suitably to his London friend, and I *hope* to see him come out well in the affair, and make good his claims.

M. Lizars thinks, that in diseased ovaria; extra-uterine conception; fœtus in utero, with distorted pelvis, rendering embryulcia impracticable; aneurism of the common iliacs, or the aorta; volvulus; internal hernia; uterine cancer; and foreign bodies in the stomach threatening death, we should have recourse early to gastrotomy; as there is little danger to be apprehended in laying open the abdominal cavity. With all deference to this gentleman's opinions, I think we cannot be too cautious in promulgating such a doctrine. The practitioner who is the pupil of experience, and whose judgment is matured by reflection and observation, will pretty accurately determine how and when to act on such occasions. But the occasional enterprise of youthful inexperience, or the daring emulation of professional fame, may be instigated by the inculcation of such lessons, to the frequent commission of irreparable devastation on human happiness and life.

A number of practitioners have, at different times, reported to have cured these formidable affections by puncture and tapping, then tubes and tents; seizing hold of the sack with a forceps, and gradually wresting it away. I suspect inaccuracy in all these reports: they are all, in my belief, inadequate to the completion of a cure. The only case in which I

think a cure *might* be effected, is such as we never can be certain of the existence of, viz. where effused fluid is enclosed in a membranous sac. It might be drawn off by a long trocar, and stimulating injections used, as in the cure of fluid depositions in the tunica vaginalis testis.

A gentleman high in the profession, lately told me of a case in which he attempted the cure by an operation, and found a tumour of frightful size, originating from, or so intimately incorporated with, the fundus uteri, as to require the removal of all the base of that organ to circumscribe the tumour.

Dr. N. Smith, of Yale College I think, (I wish I knew him better, for I highly respect both his judgment and operative talents,) has reported a case, in which the operation proved successful in his hands.

Among the propitiatory objects to be consulted in an operation, I have named an early stage of the disease; I however would not urge it at this stage, in every case. Two cases have come under my notice, in which the operation was uncalled for. Mrs. N., when I first saw her in 1806, had a pain and induration in the right hypogastrium the size of a fist, and when affected by cold as large as a saucer; it would again subside, but never disappear. Since that time she has borne two children, one of whom is since married. This lady told me last April, that the tumour began to be a little more troublesome, was rather larger, and easier affected than formerly by cold, but that it occasioned no alarm, and not much inconvenience. The other case was a beautiful young lady in her fourteenth year, now Mrs. C., the mother of five or six healthy children. The tumour could be felt on the left side, just above the ilium, about five inches from the spine; the size seemed to be about that of a large apple, though sometimes diminishing so as hardly to be felt by the hand: a dull, heavy pain, was always more or less present. She had received a hurt on the loins, by a fall from a gig. The tumour formed in a few months after, and grew pretty rapidly. She was placed under my care for some months. The progress of growth ceased, and for seven years, in which time she had two children, she suffered but little inconvenience. For the last ten years we have been separated, and I am not so well informed of the state of her general health. I have no knowledge of the occurrence of this disease before puberty, nor after the catamenia ceases. I have heard of one case that disappeared spontaneously, after thirty years' standing.

Upon the whole, we are, I fear, to expect but little benefit, in these cases, from the known agency of any article of our present

materia medica. Iodine may, perhaps, be worthy of farther trial in recent cases, where the diagnostics are sufficiently clear. But what I think of more importance, is the avoidance of all undue bodily and mental irritation, or indulgence of the amatorial orgasm.

[With regard to the cases of Dr. M'Dowal, of Kentucky, there can be no doubt: as the editor of this Journal is sufficiently assured, by communications of the most respectable character from Kentucky.] Ed. Rec.

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## Art. IV. TRANSACTIONS OF THE MEDICAL SOCIETY OF VIRGINIA.

Continued from page 151.

No. 3. *An Essay on the Qualifications and Duties of a Physician.* By William Tazewell. *Read, August* 18, 1821.

By the term physician, used in former times to designate the learned in philosophy, is here meant a practitioner of medicine, surgery, and pharmacy.

The very title of the subject on which I have determined to lay before you an exposition of the ideas I have been able to collect from the works of others, and my own observation and reflection, ought, perhaps, to have deterred me from an attempt to condense them into a space such as the limits of an essay like this afford. But the consideration that I am addressing myself to men whose liberality to an associate will at once induce them to attribute any error he may have committed, in the selection of his subject, to want of judgment rather than of disposition to fulfil the duty assigned him by the ordinances of our society, has emboldened me to make the effort. Without farther preamble, then, I have determined to treat the subject under the following heads:

I. The Education of a Physician,

II. His Qualifications, and

III. His Duties to Society and his Medical Brethren.

The natural senses of touch, taste, smelling, seeing, and hearing, are the only instruments by means of which ideas are formed and transmitted to the mind.

A boy, intended for business of any kind, should be early

instructed in the elements of reading, writing, and arithmetic. These may be regarded as the vehicles of every kind of knowledge. "Indeed," says the late distinguished professor Rush, "they are to be considered as artificial senses, from which we derive as many new ideas as from any one of the senses we received from the hands of our Creator. The accuracy, therefore, of these acquired senses, cannot fail of being a very important part of education, and peculiarly so of that of a physician."*

To attempt to learn a boy to read correctly, at a very early age, would be attended only with loss of time on the part of the pupil, and of labour on that of the teacher. It is only at a more advanced age, when the meaning of an author can be comprehended, that the art of reading with proper emphasis and cadence, can be acquired and properly estimated.

To write a fair and legible hand, an attainment acquired by the faculty so rarely, that to say of a physician who writes tolerably, "he writes a good hand for a doctor," has almost become a by-word, is in no profession so absolutely necessary as in that of medicine. A word illegibly written and misunderstood, in an epistolary communication on the ordinary transactions of life, may seriously affect the character and purse of the correspondent, but a medical letter of advice, containing such errors, may prove destructive not only to the future happiness and fame of its author, but to the health, nay, the life it was intended to preserve. Many instances of the fatal consequences to which I allude are on medical record, but I cannot detail them here. To write a good legible hand, ought, therefore, to be considered not only as a necessary part of the literary, but moral education of a physician. On the mode of attaining this desirable art, so easily acquired and so generally neglected, I shall not here dilate. Suffice it to say that it is altogether mechanical, and that to will is to acquire it. To write an illegible hand, has even been thought, by the celebrated Lavater, to influence the operations of the mind, in so much as to produce inordinate impetuosity of judgment. This, like almost all other opinions of its eccentric author, more remarkable for their subtlety than correctness, is quoted at its real value.

Arithmetic, as serving to correct the application of most of the external senses, is a branch of mathematical science which ought to be understood, not only by those who are in-

* Rush's Lectures, p. 159.

tended for either of the learned professions, but by the artizan of every kind, and, if practicable, by the common labourer. The primary schools established and establishing in our state, are well calculated to produce this desirable result.

These preliminary branches, indispensably necessary to the correct attainment of every other kind of knowledge, being acquired, the medical pupil should apply himself to the study of grammar and composition. Correctness and perspicuity in speaking and writing, for reasons already expressed, are more necessary in the medical than any other profession; for beside the serious evils that might attend the misconception of a physician's instructions, verbal or written, errors in either are but too well calculated to expose him to the suspicion of equal deficiency in professional information.

The elements of drawing will prove not only an accomplishment, but, in many instances, an acquirement of real utility to a physician. Independent of the consideration, that there are no means so well calculated strongly to impress on the mind ideas derived from the sense of vision, as correct drawings, he will be thereby enabled to exhibit the appearance of non-descript plants, uncommon external diseases, and useful dissections, not otherwise to be preserved.

The study of the Latin language should now be entered upon. The reading of a physician must be restricted to narrow limits, indeed, who is unacquainted with what has been for so many ages the medium of communication, as 'twere by common consent, between the learned throughout the republic of letters. It is much to be regretted, that the literati of Europe, and indeed of all the world, had not entered into a compact, at an early age, by which they should have been held bound to write in this language only. The important result to science would have been, that the learning of one language would have put it in the power of the student to read the literary productions of all nations, so soon as they should make their appearance, without being exposed to be led into error by illiterate translators. The recourse had to this rich and beautiful language, by most of the faculty, in writing their prescriptions, so well calculated to conceal the composition of their remedies from the unprincipled quack, who, ignorant of all the circumstances that had indicated their use, might administer them to the destruction of human life, should surely furnish another inducement to its study. I will only add, that many writers in the living languages are in the habit of making quotations from Roman authors in their own

tongue, which a physician would feel disappointed and mortified at not being able to comprehend, when they occur. An acquaintance with the Greek language, I can not view in a light so important to the study of medicine as it has been regarded for many past ages, and by men with whom to differ in opinion may be esteemed almost sacrilegious; but, to what I consider error, I trust I shall never feel myself bound to subscribe, however brilliant the source whence it emanates. It is true that many, almost all, of our terms of art are derived from the Greek. Its importance, notwithstanding, will be placed in its true and proper light, by the answers to the following simple queries. If the student has become well acquainted with anatomical science, will it at all increase his knowledge of the component parts, and structure of the human body, to know that the word anatomy is derived from the Greek words *ana*, through, and *temno*, to cut? If a physician has made himself well acquainted with the chemical composition of calomel and its medical use in general, will it benefit either him or his patient to learn that, in the Greek language, it is called *Kallos melas?* I presume not.

In lieu thereof, as calculated to be attended with greater literary profit, I would advise that the youth intended for the profession of medicine, should apply himself to the study of some of the modern languages. Of these, I would of preference recommend the French. Beside that there are so many really scientific works written in this most elegant of the living languages, it is more generally spoken than any now in use; and on the subject of medicine, especially anatomy, physiology, and surgery, there are more good books to be found in this, than perhaps any other of the modern tongues. I shall only add, that so easy is its attainment, that by a youth of ordinary capacity, a competent knowledge of the language, scientifically studied, may be acquired in the course of two or three months. I would also advise the study of the German and Italian languages, in which, especially the former, good works abound; but consistent with the application necessary to other studies more immediately connected with, and therefore more important to the study of medicine, they would occupy more time than can be advantageously devoted to them. Human life is too short for the acquisition of every species of knowledge that might become incidentally useful and ornamental to the medical profession.

I shall now proceed to enumerate the sciences which should command the particular attention of the medical student.

An intimate acquaintance with anatomy and chemistry may

be fairly regarded as the source from which alone a correct knowledge of physic and surgery can be derived. The study of anatomy will at once discover that the human body is a complicated machine, constructed, in very many of its parts, upon the most exact mechanical principles, which suggests an acquaintance with mechanics. A farther step in anatomical inquiry discovers, that the body, for the most part, consists of innumerable tubes, of various diameters, filled with fluids of different quality and consistence, of which the various pressure and motion cannot be understood, without a competent knowledge of hydraulics.

The functions of the eye, from its structure, constituting an optical machine, the operations of which produce vision and its various phenomena, cannot be fully explained or comprehended, except by such as have become acquainted with the principles of optics.

The atmosphere in which we exist and move, consists of an elastic fluid, subject to a great variety of changes, as relates to its composition, temperature, gravity, and moisture, calculated greatly to influence the human constitution. An acquaintance with its constituent parts, and other qualities, is to be derived only from the study of chemistry and pneumatics.

Many other branches of natural philosophy might here be enumerated, as leading to the correct understanding of the movements and functions of the animal machine; but, as connected with the practice of physic, I shall confine myself to the mention of two additional branches only, galvanism and electricity. Whatever opinion we may entertain as relates to the permanency of any benefit to be derived from these remedies, should their use be determined upon, in consultation, the physician in attendance should be qualified to administer them.

The most accurate knowledge of anatomy, chemistry, and natural philosophy, are however inadequate to the explanation of all the phenomena of the animal body. The animal machine differs, in many important respects, from all others. It is peculiarly endowed with the quality of beginning motion within itself, all others require the application of some external power to set them in motion. Animal operations are carried on and regulated by a set of laws entirely distinct, and independent of any principles of mechanics or chemistry hitherto known. The animal machine farther differs from all others, not only in the cause and effect of its operations, but in the very peculiar quality, to a certain extent, of re-

pairing its own derangements; exemplified by the incarnation of wounds, the renewal of bones, the cure of some diseases, and the enlargement of the remaining blood vessels, when required in consequence of their number being diminished by accidents, or necessary surgical operations.

Many attempts have been made, by the most learned and ingenious, to explain the phenomena of the animal body, some on one set of principles, some on others, but as yet their efforts have proven abortive. I lament to express the opinion, that the cause, as well of their origin as of their various continuance, is to be numbered with the arcana of Nature's operations, not to be revealed to man.

The laws of the nervous system, and those that relate to the reciprocal influence of the mind and body upon each other, both of the most difficult investigation, should command the particular attention of the physician. A correct knowledge of the faculties and operations of the human mind, is as indispensably necessary to the successful treatment of disease, as a knowledge of any of the branches of science that have been enumerated. "This knowledge," says Rush, "should be the vade mecum of every physician. It opens to him many duties; it is calculated to teach him that in feeling the pulse, inspecting the eyes and tongue, examining the state of the excretions, and afterwards prescribing according to their different conditions, he performs but half his duty in a sick room. To render his prescriptions successful, he should pry into the state of the patient's mind, and so regulate his conduct and conversation, as to aid the operation of his physical remedies. The means for this purpose are obvious and simple. They consist in inspiring faith, when it can be done consistently with truth, and infusing hope and pleasure into the mind of the patient, by a cheerful voice and countenance; by agreeable news and pleasing anecdotes; by removing painful, and exciting happy associations of ideas; and, above all, by the apparently casual history of the recovery of other patients from similar diseases."*

But the student should here be put on his guard, lest he be insensibly led into a labyrinth of metaphysics, abounding too much in data, the offspring of the imagination; too little in truths derived from, and supported by, experiment.

Many important discoveries have resulted from experiments on the brute creation, which could not have been lawfully performed on the living human subject. Before a physician

* Rush's Lectures, p. 266.

can properly comprehend or repeat such inquiries, a knowledge of comparative anatomy, at least as far as it relates to the animal he proposes to subject to his experiments, should be acquired.

The student may now engage in the study of the institutes of medicine, which embrace physiology, pathology, and therapeutics. As under the title physiology is comprehended the knowledge of the animal functions in their sound and healthy state, so under the term pathology is embraced the general doctrine of the causes, symptoms, and effects of their derangement, constituting disease.

Therapeia treats of the course to be observed in the cure of disease, and the nature of the instruments used in their treatment, and therefore may be regarded as including both surgery and materia medica.

Materia medica, which should contain the natural, chemical, and pharmaceutical history of all the substances which physicians are in the habit of prescribing, together with an account of their more obvious effects on the human body, constitutes an indispensable part of medical education. Unaided by this branch of medical science, the practitioner of medicine would be incapable of composing a prescription of the most simple form. Indeed, he would be ignorant of the quality and use of the very instruments with which he is to make his attacks upon disease.

A knowledge of pharmacy naturally flows from the acquisition of chemistry and materia medica; and its practice, for reasons that need not be here mentioned, more especially as relates to the compounding of their own prescriptions, ought to be confined to physicians alone.

The science of botany, though not immediately subservient to the practice of physic, should so far constitute a part of medical education, that a physician should be acquainted with all the plants that are used either for diet or medical purposes, and be able to find their place in any approved system of botany.

The acquisition of a minute knowledge of the sciences above enumerated, however fraught with pleasure and ornament to the profession, so far from being insisted on, is unequivocally disapproved. Either of them, prosecuted to its *ne plus ultra*, would occupy as much time as could be advantageously devoted to the whole, in as far as they are absolutely necessary to medical knowledge. I would therefore particularly enjoin on the student of medicine, while endeavouring to make himself master of the leading and fundamental principles of ana-

tomy, chemistry, and botany, to keep in full view their application to the profession, with a view to the attainment of which he has been induced to engage in their study. I am the more zealous in pressing this injunction, as within the contracted sphere of my own observation, a variety of instances have occurred of young men, calculated, from their talents and application, to become ornaments to the medical profession, having been so completely seduced by the pleasure they enjoyed in prosecuting the delightful study of chemistry and botany, that when they had finished their academical course, they knew but little of any other science.

The institutes of medicine, scientifically studied, and not subjected to the influence of hypotheses, sometimes so ingenious and plausible as to assume the name of theories, against which, based on such foundations, to the honour of philosophy, there exists, at this day, with men of science, a general and well founded prejudice, will be found to contain, says Gregory, "every fact tending to illustrate the animal economy, either in its sound or diseased state, and every fact that may be useful to a physician in forming indications of cure. These facts ought to be accurately arranged, so as either to establish general principles, or at least point at them, especially at such as lead to practice. In this view, the institutes become a natural preliminary to the practice of physic."*

Having designated as fully, perhaps more so, than my limits prescribe, the various branches of science that should constitute the education of a physician, I shall next endeavour to point out what should be his general qualifications.

There is certainly no profession requiring so comprehensive a mind as that of medicine; and to excel in it, embraces a greater compass of learning than is necessary in any other. In the other learned professions there are fixed laws, and statutes, by which all questions of difficulty may be determined; and the only quality of the mind necessary to the acquirement of these rules of government, is a good memory, enriched by study and application. The case is very different in medicine; we have no established authority by which our decisions can be regulated. The physician is under the necessity of reasoning and judging for himself. For the rectitude of his opinions he can appeal to nature and experience alone. Out of the infinite variety of facts and theories that have been taught him in the course of a liberal edu-

* Gregory on the Duties and Qualifications of a Physician, p. 81.

cation, he must be qualified to select those that are founded in truth, and separate them from such as owe their birth to hypothesis, ignorance, or a surcharged imagination. This accomplished, he will still find great difficulty in applying his principles to practice. In the course of his collegiate instruction, he will have learned to treat disease singly, and as existing by itself; he now finds himself called on to treat it complicated in endless variety of characters, which no system that has been expounded to him enables him to comprehend. "This occasions," says Gregory, "an embarrassment to a young practitioner, which nothing can remove but a nice discernment, a quickness of apprehension, which enables him to perceive real analogies, and, what is rarely united to this, a solidity of judgment which secures him from being deceived by imaginary ones."*

A physician, entering upon the practice of his profession, thinks he knows the proximate cause, and indications of cure in all disorders, together with the remedies exactly suited to each; but the fact is so far otherwise, that he is only to be regarded as having entered a school in which he has too often to finish his education, by unlearning what it has cost him much time and trouble to acquire, I mean the visionary theories and systems of the schools, entirely inadmissible into the bed-chambers of the sick. He has now placed himself under the guidance of teachers whose precepts, well understood, invariably lead the way to success and eminence, Nature and Experience. In relation to this idea, the learned Heberden, in a letter to Dr. Percival, observes, "I please myself with thinking that the method of teaching the healing art, is becoming every day more conformable to what reason and nature require; that the errors introduced by superstition and false philosophy, are gradually retiring; and that medical, as well as all other knowledge, dependent upon observation and experience, is continually increasing in the world. The present race of physicians are possessed of several most important rules of practice, utterly unknown to the ablest in former ages, not excepting Hippocrates himself, or even Æsculapius."†

Steadiness of temper under the difficulties and contradictions which every physician has to encounter, arising out of the weaknesses, and sometimes the rudeness of his patients, is a very desirable quality in a practitioner of medicine; and

* Gregory on the Duties and Qualifications of a Physician, p. 15.
† Percival's Ethics, p. 205.

as the sick so readily take the alarm, when they discover any thing like self-diffidence in their physician, he will do well to possess a sufficient presence of mind to enable him to appear composed and resolute, even in cases of difficulty and embarrassment.

Sobriety is a quality peculiarly requisite in a physician. Drunkenness, besides that its immorality is calculated to lower the profession in the estimation of the world, (for even the drunkard knows how to appreciate temperance in others) is generally attended with a debility of memory and judgment. It induces confusion and perplexity of ideas, and must, therefore, disqualify a man for the vigorous exercise of his mental faculties in general.

A physician, from the nature of his education, should be qualified to practise physic, surgery, and pharmacy, as far as his mental qualities will admit of it. The minds of some men, however, are so constructed that they cannot see a finger bleed without fainting: Nothing could be more preposterous than to expect such men to make operators in surgery; they may, nevertheless, be capable of every excellence in the practice of all the other branches of their profession.

The separation of physic from surgery, in some countries of Europe, has been attended with the worst of consequences. The precise boundaries between external and internal diseases, as affecting the pecuniary interests of the profession, thus divided against itself, will never be amicably adjusted by physicians and surgeons, and is for ever producing quarrels between men who should feel it their duty to co-operate in furthering the same great cause in which they are mutually engaged. That no such unnecessary feuds divide the physicians of our own happy country, furnishes just cause of exultation to every member of the American faculty.

It has been thought by some, that no man should be allowed to engage in the practice of physic, who had not procured a diploma. A credential of this character certainly furnishes prima facie evidence of qualification, but as it can never confer knowledge, the degree alone can never command respect; and the want of it should surely not deprive the man of merit, otherwise established, of the esteem and deference to which he is entitled.

Much has been said on the subject of professional dress and address, but I can see no reason why the general character of a physician's habiliments or manners, should differ from those of his fellow citizens; and in relation to his general deportment, should his professional duties require it, he

may surely be affable without condescension, grave without austerity, and cheerful without frivolity.

The leading qualifications of a physician having been laid down, I shall now proceed to consider the most prominent duties by which his conduct in practice should be regulated. The relations in which a physician stands, to the public and to his brethren, are complicated and multifarious. He should consider it among his first duties carefully to study the climate in which he has taken up his residence; faithfully observing and recording the influence of its seasons upon the human body, in predisposing to diseases, and in aggravating or mitigating the symptoms of those already prevailing. He should look with a discriminating eye to the different habits and constitutions of those by whom he is surrounded, that instead of administering to all their diseases apparently similar, in the same way, he may be enabled to vary his practice according to the strength, age, and particular idiosyncrasy of those he may be called to treat.

The axiom that two epidemics of unequal force cannot exist in the same place at the same time, having been incontestably established by the observation and reasoning of the immortal medical reformer, Sydenham; the physician should note, particularly, the influence of epidemic diseases upon each other, that he may thereby be enabled to determine which will most probably prevail, which demand the efforts of his skill.

A physician, as far as may be consistent with other important considerations, should sedulously avoid all untoward prognostications. Evils visit us in a pace sufficiently rapid, and the approach of misery and despair should not be accelerated by those to whom the patient and his friends look, not only for the administration of bodily relief, but hope and comfort.

"Officious interference, in a case under the charge of another," says Percival, "should be carefully avoided; no meddling inquiries should be made concerning the patient; no unnecessary hints given relative to the nature or treatment of the disease; nor any selfish conduct pursued, that may directly or indirectly tend to diminish the trust reposed in the physician employed."*

A physician, when called to a patient who has been under the care of another gentleman of the faculty, unless the case, such as apoplexy, convulsions, or profuse hemorrhage, re-

* Percival's Ethics, p. 32.

quires immediate medical aid (for the interest of the patient should in no instance be sacrificed to etiquette) ought, invariably, to request a consultation with the practitioner already employed. This course is required by the rules of that comity which ought to exist between medical brethren practising in the same city, or neighbourhood, and often throws light on the nature of the disease, that may lead to more appropriate means of relief.

A physician being, to a certain extent, responsible for the recovery of his patients; as well on his own account as that of the sick, should request a consultation, in all difficult and long protracted cases. On such occasions, any member of the faculty who cannot bring himself to lay aside every feeling of private animosity, rivalship, or jealousy, should feel himself in honour bound to decline the conference. The senior physician should propound the general questions necessary to elucidate the case, but the attending practitioner, as being more intimate with the patient and his friends, should communicate the result of the conference. The seniority of physicians may be determined by the period of their practice in the place where each resides. Theoretical discussions, in the presence of the patient, are altogether inadmissible. In consultations, of which the benefit of the patient should be the only object, often dependent on personal confidence, an intelligent practitioner, whether a graduate or not, should be received with politeness, and his suggestions weighed with impartiality and judgment. A physician should be endowed with a degree of candour which will at all times render him open to conviction, and ready to rectify his mistakes: let him keep in mind that humanum est errare, and that real knowledge and discernment are incompatible with self-conceit. Some physicians, to their eternal shame be it said, are too vain to acknowledge themselves in error; and to this species of pride, inconsistent with every elevated sentiment of the soul, and the true dignity of the profession, have the lives of thousands been sacrificed. A due respect for the feelings and interests of others, should induce punctuality in attendance at the hour appointed for consultations.

Sir William Temple has asserted that "an honest physician is excusable for leaving his patient when he finds the disease growing desperate, and can, by his attendance, expect only to receive his fees, without any hopes or appearance of deserving them." To such opinions, no humane physician should yield assent. He may discontinue his charges for unavailing attendance, but it is as much his duty to alleviate

pain, sooth mental anguish, and smooth the path of departing life, as to cure disease.

"The *esprit du corps*," says Percival, "is a principle of action founded in human nature, and, when duly regulated, is both rational and laudable. Every man who enters into a fraternity, engages, by tacit compact, not only to submit to the laws, but to promote the honour and interest of the association, so far as they are consistent with morality and the general good of mankind. Some general rule should be adopted, by the faculty in every town, relative to the pecuniary acknowledgments of their patients, and it should be deemed a point of honour to adhere to this rule, in as far as circumstances will admit.*

Common consent has made it a law, that all members of the faculty, and their wives and children, should be attended gratuitously, by any physician they may think proper to apply to; but visits should not be obtruded officiously by others, as they might interfere with that choice in which confidence is reposed.

As soon as a physician, from a candid and impartial scrutiny into the state of his own qualifications, shall find that his natural senses, or the faculties of his mind, shall, from age or infirmity, have undergone any change, by which he feels himself disqualified to discriminate those analogies on which medical reasoning, and the successful treatment of disease, depend, he should honourably retire from practice. On this point, the opinion of the venerable and conscientious Heberden, in a letter to Doctor Percival, is thus happily expressed.

"I have retired from the practice of physic, I trust from no wish to be idle, which no man capable of being usefully employed has a right to be, but because I was willing to give over before my presence of thought, judgment, and recollection were so impaired, that I could not do justice to my patients. It is more desirable for a man to do this a little too soon, than a little too late, for the chief danger is on the side of not doing it soon enough." And Percival, on the same subject, emphatically says: "Let the physician never forget that his profession is a public trust, properly rendered lucrative whilst he fulfils it, but which he is bound in honour and probity to relinquish, as soon as he finds himself unequal to its adequate and faithful execution."†

* Percival's Ethics, p. 40, 45.
† Percival's Ethics, p. 124, 203.

Testify, on all occasions, the respect and estimation in which you hold the profession of your adoption, by acting agreeably to the duties it imposes and the honour it has acquired. "Homines ad deos nulla re propius accedunt quam salutem hominibus dando."

The learned and classical Percival, in an address to the faculty on the important and honourable light in which our profession is viewed, in every part of the world where science is taught and respected, observes, "It is your honour and felicity to be engaged in an occupation, which leads you, like our blessed Lord, during his abode on earth, to go about doing good, healing the sick and curing all manner of diseases. To you learning has opened her stores, that you may apply them to the sublimest purposes, to alleviate pain, to raise the drooping head, to renew the roses of the cheek and the sparkling of the eye, and thus to gladden, while you lengthen life."*

I had intended to have defined the general duties of a physician, when called upon to act in the capacity of a medical jurisprudent, but the limits generally assigned to essays of this description require that I should conclude. I cannot, however, dismiss the subject without enjoining upon my medical brethren, especially those who have entered the school of Nature and Experience, by no means to relax in their efforts to improve our science. Its fields are vast, and as yet but little explored. Avaunt the idea that a man may be born a physician, or yet become one by intuition! Such ideas are entertained only by the indolent and illiterate. A knowledge of medical science is to be derived from education and study alone; and to attain eminence that study must be regular and long continued. "Gutta cavat lapidem non vi sed sæpe cadendo."

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## No. 4. *Treatise on the Temperaments.* By Dr. James Worrell.

Fashion in every thing bears sov'reign sway,
And words and perriwigs have each their day.

What is said by the witty author of my motto, on the passing frivolities of the day, is equally applicable, not only to the weightier matter of the law and gospel, but also to a

* Percival's Ethics, p. 124.

profession which should alone acknowledge the influence of stern reason, accurate research, and legitimate deduction.

The oracular dogmas from the temple and family of Esculapius; arranged and matured by Hippocrates and his sons, were, after a time, obliged to yield to the efforts of Serapion and the empirics: these in their turn were supplanted by Themison and the methodic sect. The revived opinions of the dogmatists, encumbered with the embarrassing subtilties of the Aristotelian philosophy, under the celebrated Galen, kept possession of the school during the greatest part of the dark ages; but were at length forced to retire before the wild theories of the enthusiastic Paracelsus, and still wilder Rosicrucians. The humoral pathology, supported by the learning, sagacity, and eloquence of the mighty Boerhaave, soon felt the influence of the fickle goddess, and sunk before the spasm and plausible theories of the cautious Cullen. After a short struggle these opinions also passed away; while the bold and dashing fancies of Brown, and the ill methodised notions of the poetic Darwin held a temporary sway.

Amid this wide spread ruin of sects and theories, it is to be remarked, the doctrine of the *temperaments* has passed down to us from the most remote periods of antiquity, in all its grand and simple features; a convincing proof of its truth and importance; and which it is hoped will plead my excuse for calling your attention to a subject that appears to have been latterly too much neglected.

The name of temperaments has been given to certain physical and moral differences that present themselves in man; and which evidently stamp an essential organic character and constitution, not only on large bodies or nations of men, but also on individuals, each of whom has a particular manner of being, which distinguishes his temperament from that of every other. These individual temperaments, the knowledge of which is of no small importance in the practice of physic, are called idio-syncrasies.

The predominance of a particular system of organs, modifies the whole economy, impresses striking differences on the results of organization, and exerts no less influence on the moral and intellectual, than on the physical powers; constituting the predominant temperament of which it is the cause and essence. Since the construction of the body follows the same model in all, it seems strange, at first sight, that each individual should possess such striking and peculiar characteristics: but, let the number of tissues or elementary ingredients of the body be considered; let the number of organs

composed of these, be taken into view; let us recollect the various vital properties which they possess, our wonder will cease. By the various combinations produced by these differences, individual idiosyncrasies and general temperaments may be sufficiently accounted for.

How far the temperaments are influenced by the following circumstances; that is, 1st, By the state of the simple solid either as regarding the fibrous or cellular texture. 2d, By the state of the fluids; as, the different proportions and conditions of the serum, red globules, and gluten. 3dly, As regards the distribution of the blood. 4thly, the different proportion of solids and fluids. 5thly, and lastly, The state of the nervous power as it influences the sensibility, irritability, and mobility. A consideration of these circumstances would require a volume, and far exceeds the limits of time and place now allotted me: this, however, is not to be regretted, being ably elucidated by the comprehensive, cautious, and accurate mind of the great Cullen, in the introduction to his Materia Medica; an attentive perusal of which I would recommend to your serious consideration.

The first of the temperaments to be particularly mentioned, is that, which the ancients, and which physicians at all times since, have distinguished by the appellation of the *sanguine*. In this the external appearances are the following: The hair soft and not much curled, is of a pale colour, passing through different shades to a red; the skin is smooth and white; complexion ruddy; eyes commonly blue; habit of body soft and plump; easily sweating on moderate exercise; the strength of the whole body moderate; the mind sensible, irritable, cheerful, and unsteady: the heart and arteries possess a predominate activity; the pulse is strong, frequent and regular; the countenance animated; the stature elevated; the figure agreeable, though strongly marked. Persons in whom this excess of the circulatory system is observed, are easily affected by impressions from external objects; the perception will be prompt; the memory tenacious; the imagination lively and luxuriant; fond of the pleasures of the table and of love. They generally possess a state of health seldom interrupted by slight diseases. Those of this temperament, when they do occur, have their principal seat in the circulatory system, producing inflammatory fevers, phlegmasiæ, hæmorrhois, &c. requiring what are called the antiphlogistic remedies, particularly blood-letting. This temperament is most exquisite from the time of puberty until the decline of manhood, but continues its character in some measure throughout life: the

ancients also called it the temperamentum calidum et humidum.

In the bilious or choleric temperament of the ancients, the sensibility is both acute and easily excited; the judgment capable of dwelling for a long time on the same object; the pulse is strong, hard, and frequent; the subcutaneous veins projecting; the skin rather brown inclining to yellow; the hair hard, black and curled; the body moderately fleshy; the muscles firm and well marked; the figure expressive; the passions violent; the motions of the mind abrupt and impetuous; the character steady and inflexible, hardy in the conception of a project, constant and indefatigable in its execution. Among men of this temperament are found those who at different periods have governed the affairs of the world; abounding in courage, audacity, and activity, signalized by great virtues, or by great crimes, the terror or admiration of the universe: It is also characterized by an early development of the moral faculties. Since an excessive perfection of the liver, with an obvious superabundance of the biliary secretions, must frequently exist with this constitution of the body, in which the vascular system possesses the greatest energy, to the prejudice of the cellular and lymphatic systems, it has been emphatically denominated, by the ancients, the bilious temperament; it has also been designated by them as the temperamentum durum et siccum. The diseases to which individuals of this temperament are most subject, are derangements of the hepatic organs, joined with changes in the nature of the biliary secretions; hence the medicines employed to remedy these affections are generally active evacuants, particularly drastic purgatives, gentle emetics, &c.

When to this bilious temperament is superadded a morbid obstruction of some organ in the abdomen, or any derangement in the functions of the nervous system; the vital functions are carried on in a weak and irregular manner; the skin is more deeply tinged; the countenance becomes uneasy and oppressed; the bowels inactive; all the secretions tardy; the pulse hard and habitually contracted: this general uneasiness has also an influence over the cast of ideas; the imagination becomes gloomy, and the character suspicious. The very numerous varieties of this temperament were called, by the ancients, the melancholic or atrabilious. A diversity of circumstances may contribute to produce it; such as, hereditary diseases; long continued sorrows; incessant study; the abuse of pleasure, &c. Many physicians, among them Cul-

len, and Clerc in his natural history of man in a state of disease, consider the melancholic temperament less as a natural and primitive constitution than as a morbid affection, either hereditary or acquired.

If the proportion of liquids be too considerable for that of the solids, it gives to the whole body an increased bulk, from the repletion of the cellular texture; hence, the fleshy parts are soft; the countenance dull; the pulse weak and slow; the skin fair and pale; the hair of some light tint, as flaxen or sandy; the figure plump and without expression: all the vital functions are more or less languid; the memory not tenacious, and the attention wavering. This is the temperament to which the ancients gave the name of *phlegmatic*, and the moderns that of *lymphatic*, because it really depends on the excess and activity of that system. The individuals of this temperament have generally an insurmountable desire of indolence, and a great dislike both to the exercise of body or mind.

To these four temperaments of the ancients, the moderns have added a fifth, designated as the *nervous temperament*, attended with the existence and ascendancy of great nervous susceptibility. This property, which causes us to be more or less sensible to impressions received by our organs, is weak in the *phlegmatic*, almost non-existing in the *melancholic*, acute in the *bilious*, and moderate in the *sanguine*.

This temperament is seldom natural or primitive, but most frequently acquired, and is dependent on a sedentary and too voluptuous life, reiterated pleasures, exaltation of ideas kept up by reading works of imagination, &c. It is also distinguished by a slender habit; smallness of the muscles, often soft and wasted; by the vivacity of sensations; by the promptitude and variability of determinations and of the judgment. Hysterical women, whose sensibility is very great, frequently present this state of the body, with all its characters. Convulsive diseases are the most common to persons of this constitution. Antispasmodics succeed best in the treatment of the diseases of this system, which always partakes more or less of the impression of the temperament. While stimuli are more advantageous in those affections to which the phlegmatic or lymphatic temperaments are subject. Tronchin, of Geneva, acquired very extensive reputation, and a large fortune, by his skill in treating disorders of the *nervous temperament*. He made his idle female patients exercise themselves habitually until they were fatigued, and restricted them to simple and plain food. Trotter, of New-Castle, has written

largely on the nervous temperament, to which I beg leave to refer you.

Although candour requires I should acknowledge my obligations to the eloquent and flowery Richerand, for the use I have made of his beautiful definitions of the temperaments; yet I think his mode of illustrating these definitions is faulty; therefore, instead of drawing these illustrations from antique statues, and celebrated individuals who have rendered themselves conspicuous in the history of mankind, I have thought they would be more strongly impressed on the mind by examples drawn from original tribes, and large masses of mankind. Thus, for example, I would depict the sanguineous as strongly marked in our Teutonic or Germanic ancestors, as described by the strong pen of the sarcastic Tacitus. While, on the contrary, the bilious is as impressively marked in the Celtic descendants, of the Southern part of Europe, as in Italy, Spain, Portugal, and the South of France. Perhaps I may be indulged in conceiving a fancied resemblance of the melancholic in the aboriginal Indians of our own country. The inhabitants of Holland remarkably elucidate the effect of climate over the temperament, showing strikingly the influence of cold and moisture in producing the phlegmatic or lymphatic temperament. Happily for us, the nervous temperament does not so frequently occur in large masses as to degenerate into national traits, it is chiefly to be sought for among the victims in the higher ranks of an overstrained and vitious civilization.

Having thus given a brief and hasty sketch of a subject at all times, and by all nations, thought an important one; I shall only further intrude on your patience, while I offer some practical applications to the present state of our city.

Should Providence in its anger, and as a punishment for supine and culpable negligence, visit us with a dangerous and malignant epidemic, but which has been hitherto averted: thanks to the well ventilated current of air and water poured over the rocky bosom of the majestic James river, that, to us, magnus fons salutis. Should, however, our continued neglect of the shallow puddles of water, the constant receptacles of every species of filth, overcome the natural salubrity of our city, and we should, in our turn, become the victims of a wide spread and dangerous disease: it is to be hoped that we shall not, either influenced by fashion, intrigue, or clamour, adopt indiscriminately any general plan of cure, but rather attentively consider the temperament and idiosyncrasy of those committed to our care, adapting our means of cure to

the existing circumstances of our patients, and not indiscriminately pour out torrents of their blood, break down their stamina by drastic evacuants, or keep them in a constant state of stupefaction with wine, brandy, bark and opium. Uninfluenced by fashion or caprice, the conscientious physician will attentively consider how the means of cure may be most conveniently and best adapted to the habit and idiosyncrasy of his patient, and will also keep in mind the wonderful resources and energies of the vital principle. In his progress, new views may probably open, but he will recollect that the soundest judgment is shown in steering between opposite extremes; he will accordingly vary his plan to the different symptoms and appearances that may occur; not obstinately persisting in preconceived notions, or theories, when he finds they will not apply to the case under his consideration.

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No. 5. *A Case of Hepatitis.* By Dr. WILLIAM D. PRICE. Read October 20, 1821.

I SHALL read to the Society this evening the outlines of a case of hepatitis, which occurred on board the ship Solon, whilst anchored on the coast of Java. It is interesting in itself, at the same time that it illustrates the very insidious character of this disease, as it is frequently met with in the East Indies.

The liver is so often the seat of disease in one form or other, that hepatitis may be considered the grand epidemic of the country; it is supposed to constitute more than a fourth part of the usual quantum of disease. From the delicacy of this organ, and the various and important functions it performs, it is not surprising that it should be the subject of many and dangerous attacks. Nevertheless, why causes which prevail in India give rise to affections of this viscus, to a degree so far exceeding other regions situated under similar latitudes, is a question not easily solved.

Though every inflammatory affection of the liver receives the general name of hepatitis, yet the Indian hepatitis embraces various diseased conditions of this organ, differing most materially in character, courses, and termination. With these explanatory remarks, I will proceed to detail the case.

Jack, a sailor, twenty-five years of age, with hair and eyes light, complexion florid, and having an habitual stoop, shipped on the first of March, 1818, from New-York, as an able

seaman. On the 11th of July arrived in Batavia, in good health. September 18th—He was attacked with dysenteric symptoms, accompanied by bilious dejections, and a yellow tinge of the skin and eyes. Although in a great measure relieved by an emetic and mercurial cathartics, still, from the difficulty of restricting sailors, in port, to a proper regimen, his bowels continued in an irregular and disordered state during the whole time he remained on the coast.

Nov. 2d, forty-five days after his first attack, the ship sailed for America, and on the 10th he joined in rope making, and other light work then going on.

Dec. 1st.—Whilst yet within the tropics, his bowel complaint became so painful as to confine him the greater part of the day to his birth. He now acknowledged (for the first time) that he felt an obscure pain about the right side, and occasionally at the point of the corresponding shoulder; his skin sallow, though rather soft—tongue and pulse natural.

Aware, both from my own experience, and information received from the physicians residing in the country, of the insidious character of hepatitis, I had, at the commencement of Jack's illness, determined to treat it as a case connected with a disordered condition of the liver. But from this course I was diverted by the advice of the surgeon of an English ship in the first instance; and, at a later period, by the gradual diminution of the symptoms, together with the circumstance of two-thirds of the ship's company being affected with a similar disorder of the bowels, at the same time. The disease, however, could no longer be mistaken: mercury, both by pill and friction, was immediately resorted to, aided by blisters over the right hypochondriac region, saline laxatives, and (when tenesmus became urgent) emollient enemas.

Dec. 7th.—Mouth sore, and mercury discontinued.

Dec. 10th.—Recommenced friction.

Dec. 14th.—Owing to boisterous weather, and the wet uncomfortable state of the forecastle, the mercury is again suspended.

Dec. 17th.—Mouth still sore, patient feeble, skin sallow, says he feels quite well, and requests to be permitted to do light ship's duty during the day! This is granted.

Dec. 24th.—Seven days after going to work, in S. lat. 20°, W. long. 6°, he was roused from sleep by a fit of coughing, which brought on vomiting, succeeded by copious expectoration of purulent matter, deeply tinged with blood. The discharge continued some time, with but little variation either as to quantity or appearance. Coughing, when violent or

long continued, caused blood to flow more abundantly, and at intervals almost unmixed with mucus or matter.

Jan. 10th, 1819.—The expectoration much lessened; and, by the 17th, it ceased entirely. The patient was now quite restored to health, and continued, from this time, to perform the usual duties of a seaman. A light and nourishing diet, aided by tonic medicines, constituted the only remedies during the suppurative stage of the case.

On being minutely examined as to his situation and feelings, both prior to and since the 14th December, (at which time he professed himself well enough to begin work,) he remembered that a sense of soreness followed the pain in his side, which appeared gradually to ascend; nor was he able to lie with ease on the left side.

The pathology of the disease before us will be readily understood, from the above history of the case. The character and condition of a sailor are so well known, that it is unnecessary to enumerate the causes of indisposition to which he is liable, even in the most salubrious climes; but, that he should escape in Batavia, where his duty obliges him to encounter those fruitful sources of disease, the mid-day sun and night air, would appear very remarkable. In the present instance, an obstinate and protracted bilious flux seems to have involved the liver; inflammation of that organ took place, which was succeeded by an abscess on its convex surface; adhesion was effected between the liver, diaphragm, and lungs; and, by ulcerative process, the matter found its way into the bronchia, and was thus discharged.

Curtis, a writer on the diseases of India, has recorded a variety of cases of hepatitis; in none, however, where suppuration occurred and was discharged through the lungs or gall ducts, did the patient recover. In both the liver presented, on dissection, a mass of ulceration; accompanied, in the former case, with destruction of the right lobe of the lung; and in the latter, erosion of the ducts: there was also, during life, a distressing and highly offensive flux. The same author further remarks, that when the abscess formed on the fore part of the liver, and was superficially seated, the matter occasionally indicated its situation by an indistinct swelling. Out of ten cases, wherein the matter was evacuated under these circumstances, by an artificial opening, two only terminated favourably.

The only comments of which this case appears to admit, are referable to the treatment of the primary symptoms. Had a proper course of mercury been instituted as soon as the flux

indicated an intractable character, it is highly probable the disease would have yielded, and the patient thereby escaped a tedious and dangerous illness. This conclusion was founded on the fortunate issue of several similar cases under the mercurial practice; and, still farther, by the additional experience obtained during a subsequent visit to India.

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ART. V. *The Surgical Anatomy of the parts concerned in the operation of tying the Arteria Innominata, illustrated by Transverse Sections.* By HORATIO G. JAMESON, M.D. &c.

Continued from page 120.

*Danger of mistaking Aortic Aneurism for Subclavian.*

46. Mr. Burns, page 60, tells us, that he was first informed by Mr. A Cooper that there is danger of confounding aortic with subclavian aneurism. And, page 63, Mr. Burns details a case, in which there was "a tumour about the size of a pigeon's egg, situated just behind the clavicle, and on the acromial edge of the sterno-mastoid muscle. It pulsated strongly, while the radial artery of the right arm acted with little vigour; but, on comparison with the artery of the opposite arm, the pulse was stronger. The pulse was regular, in both arms." "In regard to the tumour itself, it was placed in part beneath the clavicular portion of the sterno-mastoid muscle, but the greatest part of it lay nearer the acromion than the muscle. By pressure the tumour could be nearly emptied; but, while doing this, he complained of considerable uneasiness. So soon as the pressure was removed, the sac became again distended, and the blood, in entering it, communicated a whizzing sensation to the finger. The impulse was at the same time great, and on the contraction of the ventricle, the sac became exceedingly tense, and the throbbing, and whirlpool like motion of its contents, were conspicuous features of the disease. The arteria innominata was felt beating at the top of the sternum, apparently in no degree enlarged." This case was viewed, by all the gentlemen who saw it, as aneurism of the right subclavian; and they seem to have been deterred from engaging in an operation, partly from the vast responsibility attendant upon so daring an un-

dertaking, unsupported by authority, and especially by believing that the disease had progressed too far. In concluding his remarks upon this case, and another reported by Mr. A. Cooper, Mr. Burns says, "In our case, the aneurism was attached to the right side of the aortic arch, and involved a part of the arteria innominata; in Mr. Cooper's, the tumour arose from the left side of the arch, from between the roots of the left subclavian and carotid arteries. It formed a Florence flask-like cyst, the bulbous end of which projected, at the root of the neck, from behind the sternum, and so nearly resembled aneurism of the root of the carotid artery, that the practitioner who consulted Mr. Cooper actually mistook the disease for carotid aneurism." We may admit, that in the advanced stage of aneurism of the arch, originating between the *left subclavian and carotid*, there might be much difficulty; but, in the incipient state of the disease, we should most easily distinguish it from disease of the subclavian, unless there should happen to be some anomaly in the distribution of the vessels. In the natural formation, the root of the carotid is, mostly, at least an inch to the right of the *posterior line*. But especially, we should bear in mind that disease in this situation, over the *posterior line*, being situated in the aorta or innominata, is equally beyond our reach. No operation will be thought of for disease of the innominata. No information, of a practical nature, is likely therefore to result from such cases as Mr. Cooper's. But the case reported by Mr. Burns is in the highest degree interesting, and calls for a little investigation. We may here remark, that aneurism of the aorta below the arch, will be within the pericardium, and therefore not likely to rise into the area of the cervical base, at least not so as to appear above the clavicle. Dilatation of the aorta, at the right side of the arch, will be quite likely to pass up under the clavicle. Even on the lower side of the arteria innominata, as also above, or on its anterior or posterior side, if the blood escape near this artery it will be within its sheath, and this sheath will, prior to the rupture of the aorta, become thickened by the disease in the parts. The blood then escaping within the sheath of the innominata, will ascend along its sides. Again, if the blood escapes outside of the sheath of the innominata, it may be caught by the folds of membrane connecting the left and right venæ innominatæ, and as there will be least resistance on the right side, the blood will be most likely to rise up in the course of the right vena innominata. I have said in par. 33. that when we look into the thorax from below upward, after making a transverse

section of it, and having the arteries injected, the arteria innominata will, in some degree, correspond with the arched division of the aorta, so that both subclaviæ rise near the same point of the side of the *projecture*, and consequently these arteries branch off from the aorta in something like the form of the Greek Υ upsilon. Now the right vena innominata, and all the vessels and nerves, with their sheaths, coming down through the *segment* in this converging form, present many plicæ of membrane which will guide the blood to the root of the neck. But I have shown, par. 30. that the space of the cervical base, which lies between the subclavian artery and the *segment*, is very small. It is, therefore, impossible for the sac to attain any considerable size in this part: it may dilate below and above it, but just here it cannot dilate but very moderately, without first obstructing, and then absorbing the subclavian artery, a thing not at all likely to happen. This view of the subject is particularly interesting, because the tumour presented above the clavicle, from aneurism at the arch, will be small, and therefore more likely to deceive; and interesting, because, from this circumstance in particular, is the disease likely to be mistaken for aneurism of the subclavian. In Mr. Burns' case, after the disease had existed from October, 1809, to March, 1810, it had not increased much in size. He says, page 66, "March 23d—Till yesterday there was very little alteration in the size of the tumour, and almost no change in the constitutional symptoms. The right arm had slowly lost its power." This symptom would not be likely to occur in the case of Mr. Cooper, because the tumour would not press so directly on the subclavian artery. At the period just noted the swelling suddenly increased, "not only projecting farther out, but extending laterally in every direction, except towards the trachea." This sudden extension was, in my opinion, indicative of the true origin of the disease; aneurism of the subclavian would have increased more regularly, and would not have been likely to remain stationary, at the size of a pigeon's egg, several months, as above related; and this slow increase upwards was owing to the difficulty of separating the membranes firmly attached to parts so near to each other as the subclavian artery and the *segment* of the cervical base. Turning to the history of the case of Dr. Mott, we find that in March, 1818, the patient perceived a pain in his shoulder, two days after having fallen upon his head and shoulder. The arm swelled. The swelling subsided somewhat, and then a slight pulsation could be felt in the tumour: a few weeks afterwards he felt something

give way, and the shoulder became more painful, and the swelling increased about one-third. Upon the whole, there is reason to believe that the arm will suffer sooner, and the disease progress more rapidly, when situated in the subclavian than when in the aorta. Time and observation must decide this question, but I think it worthy remembrance, that in the case of Dr. Mott, the disease progressed more rapidly than in that of Mr. Burns. I do not mean, however, to say, that subclavian aneurism will progress more rapidly than aortic, except in this particular case, where the blood is directed, in the aortic aneurism, principally in between the *segment* and the subclavian artery. It is remarkable, that on the day of operation, in Dr. Mott's case, there was no difference in the pulses in the different arms; a proof, however, of anastomotic circulation. In all the cases of aortic aneurism which I have seen, there was a peculiar thrilling, hobbling pulse. I may have occasion, when I come to treat of aneurism of the subclavian, to investigate this matter more particularly.

*Disease which resembles Aneurism at the root of the Neck.*

47. Page 79, Mr. Burns says, that he has seen a simple glandular tumour mistaken for aneurism. "A tumour appeared from behind the sternal extremity of the left clavicle; it was bigger than a hen's egg, pulsated very strongly, and produced an inequality in the pulse at the wrist, great difficulty of swallowing, and slight dyspnœa." This patient was treated by a surgeon as a case of aneurism for some months. The patient becoming tired of the restrictions put upon him, ventured to experiment, resumed his former diet and exercise, and, as his health improved, the tumour gradually disappeared.

About two years ago I was called, by a physician of the first respectability, to examine a case of aneurism at the root of the neck, which might be disease of the aorta, innominata, subclavian, or carotid, since it was large, and occupied a large portion of the neck, from the trachea to the *incurvature*, and from the clavicle up as high as the thyroid cartilage, and forming a very prominent and large tumour. After laying my fingers upon different parts of the swelling, through all which a feeble pulsation could be felt, I remarked to my friend that the disease was obscure. He was evidently surprised, and directed me to place the point of my finger upon the highest point of the tumour, where the skin was thin and

somewhat unhealthy in appearance. I now perceived a pretty forcible pulsation. I attempted to press the blood out of the sac, to see the effect; I easily caused the blood to retire from the projection in which the strongest pulsation existed; I felt a crackling sensation, as though the parts within were tearing; I therefore desisted, but felt fully satisfied that we had aneurism. The advanced stage of the case, however, and a constitution utterly ruined by intemperance, forbid all thought of operating. Measures were adopted for temporizing, and a moderate pressure applied to the tumour. The patient soon died from debility, but apparently without suffering any inconvenience from the tumour. When I came to examine the case after death, I found it a diseased gland, which was situated in the layer of vessels and fat under the sterno-mastoid muscle, and between its sternal and clavicular heads; partly steatomatous, partly medullary, especially in its lower part, where it lay under the *segment*, and had caused the absorption of a large portion of the upper rib, and a part of the clavicle. In its upper part it presented, in great part, the characters of venous aneurism: and owing to this circumstance was it that the pulsation of the carotid, which lay under it, could be felt. Similar cases might be multiplied, but it is not my object to collect a multiplicity of cases, but merely notice a few interesting ones, with a view of putting the younger part of the profession on their guard.

*Dr. Jones' opinion as to the advantage of dividing the inner coats of Arteries examined.*

48. Not to admit that Dr. Jones had greatly improved our views respecting the use of ligatures to arteries, would be to do him injustice. But, notwithstanding the new views which he afforded, I am of the opinion, that one of the greatest errors, in a practical point of view, which he could have presented, is to be seen in the opinion, that we promote the healing of arteries by applying our ligatures so as to cut their inner coats. To Mr. A. Burns, and Mr. C. Bell, is due the merit of having first called in question the opinion of Dr. Jones, on this point. They have, in the most satisfactory manner, shown the fallacy of Dr. Jones' opinion. But to Dr. Physick is due the still greater merit of pointing out a ligature which will best secure the end in view, in all cases where we wish to obliterate or close up the end of an artery. The limits which I have prescribed to this essay will not allow me to investigate the views of Dr. Jones, except a few

leading items of his opinions. But of Mr. Burns' criticisms upon Dr. Jones it will be necessary to give some account, and also to speak of the peculiar advantages of Dr. Physick's ligatures.

Dr. Jones arranges his views of the effects of tying an artery under seven divisions. I shall notice such of them as apply to my present purpose. "1. To cut through the internal and middle coats of the artery, and to bring the wounded surfaces into apposition. 2. To allow of the formation of a coagulum of blood just within the artery, provided a collateral branch is not very near the ligature. 3. To excite inflammation in the internal and middle coats of the artery, by having cut them through, and, consequently, to give rise to an effusion of lymph, by which the wounded surfaces are united, and the canal is rendered impervious; *to produce simultaneous inflammation on the corresponding external surface of the artery*, by which it becomes very much thickened with effused lymph, from the exposure and inevitable wounding of the surrounding parts, to occasion inflammation in them, and an effusion of lymph which covers the artery, and forms the surface of the wound. 4. To produce ulceration in the part of the artery around which the ligature is immediately applied, viz. its internal coat. 5. To produce, indirectly, a complete obliteration, not only of the canal of the artery, but even the artery itself, to the collateral branches, on both sides of the part which has been tied.

*Dr. Jones' opinion continued, and his views relating to the production of coagulable lymph, examined.*

49. Let us now examine into the validity of the opinion that we should cut, with our ligature, the two inner coats of arteries, and inquire whether we can best bring the inner surface of an artery into apposition by cutting its inner coats.

I believe the views of Mr. John Hunter, as to the main points connected with adhesive inflammation, stand uncorrected and unimproved. And it would seem strange how the clear and correct facts which he has pointed out could have been so much overlooked, and so much misapplied. Dr. Jones and a host of his followers, (for Samuel Cooper says it prevailed almost universally in England, and so it has in this country) tell you to cut the coats of the artery, to produce the effusion of coagulable lymph, and yet every man of the slightest observation, since the time of John Hunter, must be sensible of the readiness with which lymph is extravasated

in cases of inflammation, and, more especially, in simple wounds and contusions. Let us advert to an observation or two of Mr. Hunter; page 10, he says, speaking of the most healthy tendency of inflammation, as to the sympathies extending from the point of irritation: "There will be less of the serum, and of course a firmer coagulable lymph, so that the swelled parts will be firmer."—"Again, the increase of volume is owing to the extravasation of coagulable lymph, and some serum." Page 13, he reminds us of the readiness with which internal inflamed parts grow together, by the effusion of lymph. Page 30, this author says, "It seems to appear, from observation, that some surfaces of the body do not so readily unite by the coagulable lymph as others, and therefore, on such surfaces, there is commonly a much larger quantity of this matter thrown out than probably would have been if union had readily taken place; for we may suppose that, where once union has taken place, extravasation is at an end. Thus we see, in (what we may suppose) inflammation of the heart, that coagulable lymph is thrown out on the exterior surface in vast quantities, while, at the same time, the heart shall not adhere to the pericardium. This is not only seen in the human but in other animals. In an ox the heart was found furred all over, and, in some places, the coagulable lymph nearly an inch in thickness." It would be a waste of words to extend quotations, or recite facts from my own practice, to prove what must be familiar to every surgeon, that, where you have simple inflammation, you will have coagulable lymph. The authority of Mr. Hunter, supported as it is by subsequent experience, in relation to the readiness with which inflamed parts effuse lymph, show that there can be no necessity for cutting the coats of an artery for this purpose. I shall presently advert to facts which go to prove what we might, a priori, have supposed, that the inner surface of an artery, under suitable circumstances, will, with equal certainty, with internal membranous surfaces in other parts, throw out lymph and heal.

Under this first head of Dr. Jones we are yet to inquire, whether this is the best method of bringing the surface of an artery into contact, that is, by cutting its inner coats. I readily acknowledge that there is a conservative power inherent in arteries, which enables them to heal kindly in most cases, even though we impose upon them the violence of cutting their coats; but we may safely maintain that in no case whatever will we approximate more completely the sides of an artery by cutting its coats. And, indeed, there is no truth

more clearly and satisfactorily presented to my mind than this, that in the larger arteries, as the subclaviæ, and innominata in particular, there is the most manifest proof that their sides cannot be brought smoothly and safely together by a ligature which will cut the inner coats. If you tie a large artery with a soft flat ligature, it will cut principally upon the highest points first, and thus the rugæ which it otherwise would fall into, will, in greater part, be made to spread out, and present a greater uniformity of surface. In the other case, in tying a large artery with a small, or hard round ligature, the highest points will be first cut. This I have repeatedly ascertained on the arteria innominata of the dead subject. If we tie this artery with a small round silk ligature, we shall see the walls gathering in irregularly, and by a little firm pressure of the knot, you feel the parts suddenly giving way, before you expect it; and if you now examine the coats of the artery, they will be found very unequally divided, being in part almost cut off. Whereas, if you tie the artery with a proper leather ligature, you may press pretty firmly, till you have almost entirely displaced the rugæ, and still, upon examining the artery after having tied it, it will be found regular, creased, and approximated around its entire circumference; no where contused, and yet in every part closely in contact. And even if our experience did not afford sufficient proof, we might readily suppose that the violence necessarily done in baring the artery, and in strangulating in some degree its vasa vasorum, would be sufficient to raise the necessary inflammation, and the inflammation produce the coagulable lymph destined for the restoration or preservation of the parts.

*Mr. Burns' views of Dr. Jones' opinion respecting a coagulum.*

50. It has been said by Dr. Jones, that we apply the ligature "to allow of the formation of a coagulum of blood, just within the artery, provided a collateral branch is not very near the ligature." That a coagulum will form, in most cases, where a ligature is applied at some distance from a branch of an artery, is too well ascertained to admit of a doubt. How far the presence of the clot is instrumental in the closure of the artery, is still involved in some doubt; the more so, since its presence, it is well known, is not absolutely essential. Mr. A. Burns, p. 146, says, "There is a part of the process of obliteration which must be attended to; I mean the clot of blood which is sometimes formed in the vessel. If we view this in its proper light, we shall have occasion to

admire the office it performs. Bichat has shown, that naturally no absorption goes on from the inner surface of arteries. Nature has therefore increased her own task, by forming a bloody clot. Unless it perform a part in the process, its presence must be detrimental, since it must be removed before adhesion can take place. Where it is found, such a change must afterwards be induced, in the nature of the internal coat, as shall adapt it for removing, by absorption, the extraneous substance. The accomplishment of this also renders the aptitude for adhesion greater."

Mr. Burns would persuade us here, that naturally, as has been maintained by Bichat, there is no power of absorption resident in the internal surface of an artery: but a clot, which is to a certain extent an extraneous body, effects a change in the economy of the parts, which leads to an absorbing power, and thus absorption once set up, for the purpose of removing the clot, he thinks, will become conducive to the healing of the artery. This opinion can never be reconciled to the phenomena attending the adhesive process, nor to the opinion which Mr. Burns adopts, from Bichat, that the inner coat of arteries never granulates, and therefore never heals except by the adhesive process. The deposition of coagulable lymph commences immediately upon inflammation being set up; indeed, Mr. Hunter says, that inflammation is not characterized until lymph is effused; and daily observation convinces us, that union commences a few hours after a part has been wounded. Let us follow Mr. Burns a little further: p. 146 he says, "A coagulum, as we learn from Dr. Jones' experiments, is chiefly formed where the distance from the ligature to the first lateral branch is considerable. Where the distance is short, the ligature excites a sufficient degree of irritation to produce the lymphatic effusion: but, where it is considerable, that part in the vicinity of the thread is sufficiently excited; not so the more remote part. From the natural effect of the stagnation of blood, a coagulum is formed, which being an extraneous substance, excites the action of that part of the canal of the vessel with which it is in contact, procures its own absorption, and at the same time causes an effusion of organized lymph. This is really the only benefit which can be derived from the formation of a coagulum."

If Mr. Burns has clearly expressed his ideas here, we are to understand that a ligature may be expected to produce a sufficiency of organized lymph to heal an artery; but, for the obliteration of the vessel to the next branch, the presence of a coagulum is necessary; and this, indeed, is the only benefit

which he thinks can arise from the presence of the clot. He goes upon the supposition here, that the clot must be subservient to some useful purpose, otherwise nature would unnecessarily "increase her task," and yet we see that he considers the formation of a clot "the natural effect of the stagnation of the blood." How can we admit that coagulable lymph is necessary to the process of absorption. What proof have we that we must have an extension and perpetuation of effused lymph along the artery, to establish an absorbing power in its vasa vasorum. Upon the whole, so far am I from adopting the views of Mr. Burns here, that I believe the formation of a clot accidental, and not designed by any known law of the system to promote the healing of the vessel, but growing out of the well known property so highly conducive to our safety in cases of wounded vessels, I mean the property of coagulation in the blood. But I think it may be fairly maintained, that the coagulum may, although its formation is accidental, be useful in two ways; first, the stopping of the caliber of the vessel will prevent the blood from beating upon the tied part of it, and thus prevent the washing away the lymph as it is becoming organized; secondly, the experiments of Mr. Hunter lead us to believe, that the coagulum serves as a nidus, into and through which new vessels enter. We might, I think, contrary to the opinion of Mr. Burns that the coagulum, being an extraneous body, must produce irritation, and thus lead to absorption of itself and the vessel also, contend, that to a vessel considerably inflamed, the blood, in its fluid and natural state, will be more irritating than a coagulum, which is no sooner formed than a deposition of lymph is made between it and the coat of the vessel; and this, together with the absence of the air, will prevent chemical changes from taking place in the blood. It is a law in the healthy economy of animal bodies, that parts that are useless will be absorbed; nature is not always competent to the task, but we see enough of it to admit of the existence of such a law; and I am inclined to believe, that where an artery is shut up and becomes useless, between the part obstructed and the next branch, it will be absorbed, whether a coagulum plug up the vessel or not, and the absorption will, no doubt, be chiefly effected through the external coats, without the establishment of any particular absorbing power being set up on the inner surface of the artery. Nay, I think the absorbing process could not be sufficiently early set up, after tying a vessel, to effect the speedy change which I apprehend takes place, if the absorbing power was the consequence of the peculiar stimu-

lus of the coagulum. I once tied the internal iliac artery fully an inch below the bifurcation of the common iliac. The patient, owing to a habit exceedingly depraved from intemperance, died of mortification in the aneurismal sac and lower limb, on the ninth or tenth day. The artery was found dwindled away to a mere string, resembling a piece of tape; this preparation is still in my possession. I believe that if we succeed in healing the coats of the arteria innominata, nature would eventually render our work doubly secure, by obliterating a considerable portion of the vessel, provided the ligature did not remain to keep up irritation. In short, my opinion is, that the presence of a coagulum is conducive to the healing of large arteries, under pressure, whether by ligature or otherwise, but not essential; that it is chiefly useful, by affording a safe lodgement to the lymph effused, and which has to become organized; that whether there be a coagulum or not, if we have not produced too much irritation, and have fairly tied the artery free from rugæ, there will be a sufficient supply of lymph to effectuate the healing of the artery. I have no facts directly in point, but there can be very little room to doubt, that since an artery will heal, as we know, by almost daily experience, under a single ligature; and in many cases where there is no coagulum, owing to the proximity of a *branch*, the inner surface of the artery will close, not only immediately under the ligature, but on both sides of it to a small extent. If this be the fact, it is highly important when applied to the ligature of the arteria innominata. Here we cannot expect the coagulum with much confidence, and the forcible beating of the blood against the sides of the artery, inside of the ligature, will be liable to wash away the coagulable lymph. How important, then, that our ligature be flat, so that a portion of the inner coat of the artery shall be closely and equally in contact, and that a portion of it, on the side of the ligature most remote from the heart, shall be left to effuse its portion of lymph; and thus close the vessel, like a tube hermetrically sealed, on that side of the ligature. And I believe this state of things will be best secured by avoiding the cutting of the inner coats of the artery. If you simply tie the vessel with a flat ligature, its sides will be approximated in an equal degree on both sides of the ligature; but, if you cut the inner coats, the outer, being more loose and elastic, will give way, so that the firmer inner coats cut off will, by their greater firmness, rise up more on either side of the ligature, and carry the loose coat with it. Need I say, the consequence will be, that we shall have less of the inner

surface in contact, because the sides of the vessel will more suddenly recede from each other.

*Of the danger of producing the suppurative process by a rough ligature.*

51. In paragraph 48, we are told that we must cut the internal and middle coats of the artery, to occasion an effusion of lymph, and to produce simultaneous inflammation on the corresponding external surface, by which it becomes thickened, &c : the first item, as to the necessity or advantage of cutting the artery, has been noticed in the preceding paragraph. From the time of Mr. Hunter, the profession have been aware of the delicacy of matters connected with the adhesive process, and how readily it becomes blended with the suppurative, and it is well known that mostly where the latter begins the former ends. We are told here, by Dr. Jones, that the ligature excites inflammation of the outer coat, which leads to the effusion of lymph, and thus the artery is first thickened in its coats, and afterwards enclosed by a coating of lymph. If we see the ligature exerting this influence over the external coat, why should we suppose that the inner coats will not also heal by the first intention, without cutting them. Sometimes, however, both kinds of inflammation go hand in hand, of which I shall speak in the next paragraph.

*Of the risk of producing the suppurative process by ligatures.*

52. Dr. Jones says, the ligature should produce *ulceration of the artery*, around which it is immediately applied to, viz. its external coat. There is no doubt of the fact, that in most cases there will be more or less ulceration of the external coat; but, so far is this from being necessary, it is much to be dreaded. The utmost pains should be taken to avoid it, by bruising the parts as little as possible in exposing the artery, and a smooth, flat, leather ligature will bruise the external coat less than any other; it is softer and less cutting than silk when applied, and, both from its porous property and its gelatinous nature, it speedily becomes imbued with the lymph, which surrounds it, and becomes of all things the smoothest and the least irritating, and, of course, will least interfere with the adhesive process. Mr. Hunter tells us, page 29, that "it sometimes happens, however, that the adhesive state cannot set bounds to itself, and, therefore, cannot set bounds to the suppurative. This may be owing to two causes; the

one is, the violence of the inflammation and quickness of the attack of the suppurative, spreading before parts have a sufficient union, and perhaps joined with a species of suppurative from the first, so that union is prevented." None will doubt the accuracy of Mr. Hunter's remarks here, and, admitting them, how can we agree with Dr. Jones in supposing that we must produce ulceration in the external coat of an artery, to secure its healing. The fact is, that we should ever bear in mind, that in some habits the suppurative process is almost inseparable from the adhesive, and the least preponderance of the former, before the healing is well effected, will, as Mr. Hunter says, *prevent the union.* How readily parts may run into both species of inflammation, has been noticed by Mr. Hunter, in cases of strangulated hernia; and, in some habits, the utmost caution must be observed, or we shall produce something of the same sort, by doing the parts too much violence in tying arteries.

Dr. Good, vol. iv, p. 158, says—"Healthy inflammation consists probably of one kind alone, and is no farther divisible than into different stages of a restorative action, the effect of an instinctive stimulus rather than morbid irritation." And it is not the less true, that in obliterating an artery, by ligature, we have no need of any aid from the suppurative or ulcerative processes, as regards the welfare of the vessel. In a word, the supervention of the ulcerative inflammation can only be at all safe after the artery is well healed, and cannot be too much avoided. And it has been well observed, by Dr. Good, that the degree of violence with which inflammation commences, produces a considerable influence on these points. So that we can have no difficulty in perceiving that we best avoid danger by least disturbing the artery; and I am well convinced, from a considerable share of experience, that, after a proper operation, the leather ligature is, in a high degree, conducive to the healing, before ulceration fairly sets in; and, indeed, may be so managed as almost wholly to avoid the suppurative and ulcerative processes in the artery.

53. Dr. Jones says, that "by tying an artery, we produce indirectly a complete obliteration, not only of the canal of the artery, but even the artery itself to the collateral branches, on both sides of the part that has been tied." This is an important fact, since the arteria innominata is not likely to close to any great extent on the side next the heart.

No surgeon at present, would doubt the opinion that the healing of an artery is greatly endangered, by baring it too much, and, in this part of our subject, we are much indebted

to Dr. Jones, for his views of the causes of secondary hemorrhage. In pointing out the important fact of the dependence of the vasa vasorum of an artery, on the vessels surrounding it, he has shown the advantages of tying arteries, with as little disturbance of the surrounding vessels as possible. But I am well satisfied, that this important fact has been misunderstood and misapplied. At present, I shall confine my remarks, on this point, to the case of Dr. Mott. In the Appendix of the Baltimore Edition of A. Burns, it is said of Dr. Mott's operation: "If I might be permitted to offer a criticism on the performance of an operation, so novel in its character, and so bold in its design, I should feel disposed to object to the previous exposure of the subclavian artery. Indeed, I am inclined to think, that it was from the destruction of the vasa vasorum of so large a portion of the artery, that the fatal hemorrhage is to be attributed," &c. Here we are given to understand, that the vasa vasorum are outside of the vessel. It may be proper to remind the reader, that the hemorrhage here spoken of, occurred on the 23d day after applying the ligature. Is it at all probable, that an artery should be sustained by its vessel, so long a period of time, and then perish for want of blood? In my opinion, there is not a shadow of probability, that this could have been the cause of the unfortunate issue. I would hold, that if an artery have vessels enough to effuse a proper quantity of lymph to heal the vessel, it must be done in the space of two or three days; and when once completed, the vessels which served to effect the healing will sustain it, the more so, as we know, since the experiments of Mr. Hunter, that the vessels of inflamed parts become enlarged, and if the larger branches have been obstructed, the smaller will remain permanently enlarged. Dr. Mott tells us, speaking of his first attempt to tie the subclavian artery, that he "exposed it to the extent of about half an inch from its origin, which was all that the tumour would permit." Finding this artery unhealthy, the Dr. proceeded to examine the innominata, and of this latter vessel, he says, "after fairly denuding the artery upon the upper surface, I very cautiously, with the handle of a scalpel, separated the cellular substance from the sides of it." Here we see, then, that no more than *half an inch of the subclavian* was exposed, and the innominata but little disturbed. I think the first objection which I have stated, i. e. the length of time intervening between the operation and the hemorrhage, is sufficient to rebut the supposition, that the hemorrhage was owing to

separating the vasa vasorum: but, I think the supposition still more unreasonable, from the fact of the moderate exposure of the vessels in question. I have not seen a particular account of Dr Graefe's operation, but in this Journal, vol. vii. page 813, we have a quotation from Anderson's Journal, for 1824, in which it is said, "that after making an incision in the neck, he pushed the cellular substance aside, so as to get behind the sternum, and by means of a blunt hook, passed the ligature round the vessel." Several weeks afterwards, when "the wound was nearly healed," hemorrhage came on, and returned from time to time, till the patient died. It is obvious, here, that the unfortunate result, was not owing to depriving the vessel of its vasa vasorum. It is, however, a remarkable fact, that the wound should have remained open so long, and is calculated in a high degree, to support the opinion which I have formed, that in both cases where the arteria innominata was tied, the failure was owing to the unsuitableness of the ligatures applied. That I may not be misunderstood, in my views, respecting the disadvantage of baring the artery too much, it may be proper, once for all, to state, that I view as a matter of the highest importance, that we avoid this as much as possible; but, believing as I do, that this has not been the cause of the failure in tying the innominata, I shall proceed to show what most probably was the cause.

*Secondary Hemorrhage, owing to hard cutting Ligatures.*

54. Dr. Jones lays much stress on the circumstance of ligatures being rough, so that they may not slip well, whereby they are prevented from cutting the coats of the vessel equally all around; and, to this, he attributes the occurrence sometimes of secondary hemorrhage. I would, here, ascribe the effect not to the unequal division of the coats of the artery, but to the ligature fretting the part by its roughness, and thus keeping up too much irritation, by which there is a degree of the suppurative process, blended with the adhesive, from the first, or, at least, before the union is well established. I am reminded here, of the fact, that notwithstanding the importance of the vasa vasorum of arteries to their welfare, that the views suggested by Dr. Jones are defective, in as much, as he does not distinguish between the supplying vessels, and the true vasa vasorum. The vessels surrounding an artery, and feeding the vasa vasorum, should be distin-

guished from the vessels of the vessel, strictly speaking, since the feeders may be removed to considerable extent without injuring the artery materially, but the vessels of the coats of the artery cannot be materially disturbed without danger.

Few surgeons, I believe, of extensive experience, would doubt the fact, that arteries may be deprived of their feeders, to a considerable extent, without much hazard. The testimony of so distinguished an author as Baron Boyer, will, however, I trust, not be misplaced in applying it here. "Although an artery be uncovered, stripped, even by the effort of some accident, of its external cellular tissue, and remain in that state some time, in the bottom of an ulcer, an aneurism is never the consequence. We have seen the brachial artery, after an anthrax, completely deprived of its cellular tissue; its beatings could be observed during ten days; after which, the granulations hid it from view. The patient was cured." He says, moreover, that the coats become thickened, and the cavity diminished. "Finally, the result will be the same, if an artery be stripped, not only of its cellular sheath, but of its muscular tunic, as was done by Hunter, Horne, and Scarpa."* These important facts were applied to prove that vessels thus denuded, would not become aneurismal, but they are equally important in relation to secondary hemorrhage. If we then admit, that an artery may be thus stripped with impunity, how are we to account for the fact, that to strip an artery, and apply a ligature around it, is attended with much danger. This view of the matter, brings Dr. Jones' opinion to the test, and shows the necessity of a more nice discrimination between the vasa vasorum, strictly speaking, and the mere feeders of those vessels. It appears, from actual observation, that the vessels of the coats of an artery anastomose with sufficient freedom, to keep up the circulation in the longitudinal direction, and, indeed, this phenomenon is nothing more than what we see in larger vessels of a limb, where we obstruct a main vessel. Before we proceed to inquire to what the difference may be owing in arteries denuded, in their different states of being tied or not, it seems proper to adopt some suitable epithet to distinguish the supplying vessels, from the true vasa vasorum. The terms vasa subsidiaria vasibus vasorum, will, perhaps, be sufficiently expressive and convenient.

* Boyer's Surgery, vol. i. p. 253, New York edition.

*Inflammation may be prolonged by hard ligatures.*

55. I think it is obvious here, that the danger of tying an artery in some degree deprived of its vasa subsidiaria vasibus vasorum, is owing to the strangulation of the vessels of the arterial coats. Then if we apply a silk cord, which is comparatively a rough substance, especially when twisted, this will, by its mechanical attrition, produce more inflammation, and continue it longer, than is consistent with the safety of the arterial coats. But, what is still more to be dreaded, is the division by the ligature of the vasa vasorum, which, by their free anastomoses, are calculated to maintain the circulation under the ligature, if the capillaries are not cut in two by a corded ligature. It has been well observed by Dr. Good, "that the animal economy having a disposition in itself to discontinue diseased action, such action will readily subside upon the disappearance of the cause that maintained it." Now we are aware, that it must be admitted, the fine silken ligatures of Mr. Lawrence have sometimes been kindly encased by a cyst, but even this has not always succeded, since his fine ligatures sometimes cut themselves out; and it will not be contended that the same result can reasonably be expected, if a silk cord, or any ligatures which must remain as the cause of inflammation, is applied; and in the most favourable cases with such ligatures, we shall have first the adhesive, and subsequently the suppurative or ulcerative process, before they can come away. On the other hand, apply a soft flattish ligature, constituted principally of gelatine, and there will result a closure of the arterial cavity, the vasa vasorum will be only in part strangulated; the ligature becomes imbued with lymph, does not draw tighter after being wet by the lymph, as does the silk or flax. Its absorption immediately commences, and by the time the vessel is healed internally the ligature is absorbed. Dr. M'Clellan says, after making many experiments, he ascertained that "the smallest threads which can be made of the finest French kid skin, I have always found to be dissolved, in recent wounds, in less than thirty-six hours; and those of a sufficient size to secure the largest artery, invariably disappear before the sixth day."

I have not repeated these experiments, but from the success attending the use of the single leather ligature, applied to almost every artery of the body accessible to surgery, I have the fullest conviction of their accuracy. If then, it be admitted, that there is in the animal system inherent powers which

will tend to the termination of inflammation, as soon as the cause of it is removed, we readily see how important is the dissoluble ligature. Inflammation once set up, being likely to continue till the cause is removed, the disadvantages of the round hard ligature is obvious, since after keeping up a high degree of irritation, it must cut itself out, dividing first, of of course, the artery; and, if the wound has closed, it must cut through the surrounding parts also.

*Irritating property of common ligatures generally acknowledged.*

56. There is perhaps no diversity of opinion as to the irritating property of common silk and flaxen ligatures, and all good surgeons agree in advising the removal of one end of the ligature after it is tied. Several highly respectable surgeons have practised the method of cutting both ends, and leaving the ring around the artery to find its way out. These trials have not warranted a continuance of the practice, except with the ligature adopted by Mr. Laurence, of fine dentist's silk. This, to arteries of moderate size, was an improvement of great importance, compared with the former method; but will not bear a comparison with the flat leather ligature. In the larger arteries, as the subclaviæ and innominata, no one would, I presume, trust to the fine silk ligature. It would not serve to bring the vessel together, and from its sharpness the coats would probably be divided before a perfect union had taken place. A stronger silk ligature is a thorn.

*Proposal of temporary ligatures examined.*

57. Considerable attention has been paid to the subject of applying ligatures until the union had been effected, and then removing them. We find, among the able experimenters, the names of Scarpa, Travers, Crampton, Jones, &c. Although a degree of success attended their efforts, all considerations relating to this branch of the subject, of tying arteries, became useless before the ligature of Dr. Physick. What occasion for cutting away a ligature, if you apply one dissoluble in its nature, and which we know will be removed, by absorption, almost as soon as any man would consider safe to remove a ligature. We must not overlook the fact here, that the anxiety manifested by so many able surgeons, is a strong proof of their apprehension of danger from leaving ligatures, which, by their mechanical action on the parts, must injure and render less certain a favourable result. Besides, nothing

is more obvious than this, that even if we could avoid irritation and its consequences, by removing ligatures as soon as union might be considered accomplished, we cannot remove them without materially disturbing the newly formed adhesions. This subject, once so well worthy the attention of Scarpa, Travers, and many others, loses all its importance now that we have every thing that could be desired in the ligature of Dr. Physick. I trust I shall be excused for the trouble which I give the reader in dwelling on this subject, when it is considered of how great importance is the subject.

I shall conclude by saying, to the truth of which there are many highly respectable witnesses in this city, that I have applied the dissoluble ligature to a vast number of arteries for six or seven years, without the occurrence of secondary hemorrhage, or any unpleasant occurrence, in any one instance. It only remains to describe the ligature I have employed.

58. My ligatures have been made of common fawnskin, often with its buff ball on it. I prefer soft pliable pieces; cut them into shreds about four times as wide as they are thick, or, if the leather is very soft, something wider, then, holding one end fast with the left fingers, I draw it several times pretty forcibly through the right thumb and fore-finger; by this they acquire solidity without becoming hard, and will be extended so as not to be more than twice as wide as thick, if small; the larger perhaps three times; so that they are in a slight degree flat. These ligatures I apply, with the utmost facility, to the ends of arteries in amputations—they never slip. I confidently hope the day is not distant when we shall see no ligature in use except that of our *buckskin*. I would, however, advise that leather for this purpose should be dressed for the purpose. By immersing the skin in the brain of animals and water, and working a portion of oil into it as it becomes dry, we can obtain a pliable, soft, inirritative ligature. Were I to operate on the arteria innominata, I would not venture to use any other than a ligature thus prepared. Need I say, Scarpas' proposal for preventing division of the inner coats of arteries, by interposing, between it and the ligature, rolls of linen, requires no further consideration? The leather ligature wholly supercedes all necessity for this method.

*Medical Surgery connected with tying the Arteria Innominata.*

59. This essay having already far exceeded the limits allotted to it, I shall but very briefly speak of some circum-

stances which I deem important, and which most properly belong to the department of medical surgery. Candour and sound discretion, I think, require that we look upon the subject of healing the arteria innominata by ligature with some share of distrust. Drs. Mott and Graefe have satified us that the brain will not suffer, that the circulation of the arm will be maintained, that we have nothing to fear from a retrograde course of the blood, and, that we may tie the vessel after the tumour has considerably displaced the clavicle. But still, the great force of the blood, the shortness of the artery where the disease is in the subclavian, the great size and rigidity of the arteria innominata, the risk of disease in its coats, must leave a share of doubt upon our prospects, till we shall have triumphed over these obstacles. Ardently do I hope, that if another case presents, the surgeon will avail himself of the leather ligature. A nice clean dissection of parts, with as little stripping of the artery as possible, and the dissoluble ligature, are of the highest importance; but I would urge, that, in addition to this, we carefully endeavour to lessen the force of the blood upon the inflamed and healing artery. By turning to my introductory remark, par. 17, it will be seen, that I enter my objections to a practice too common, of reducing patients, before reaction comes on, by bloodletting. I am still equally sensible of the importance of this opinion, in all cases except in very large arteries, as the innominata, or aorta. From the success attending the practice of Valsalva, and others, who adopted his views, of reducing patients affected with aneurism of large vessels to an extreme degree, by abstinence and repeated bleedings, I have no doubt we should increase the chances of success by adopting this plan of treatment, as far as particular cases would authorize it. I am reminded here of what Dr. Mott says, respecting his patient. On the evening of the day of the operation, half past nine o'clock, the pulse being full, the patient was bled sixteen ounces. At 12 o'clock, "pulse full and less frequent, beats 60." Now here is not only a full pulse soon after bleeding, but the pulse being "less frequent," is a proof that there was not much debility present. Is there not reason to believe that the patient would have been benefited by further depletion? for my part, after seeing the result, whatever I might have done before, I would have reduced the patient, and continued to keep him on a plan in a good degree corresponding to that of Valsalva. I consider this a matter of vital importance, and I consider the adoption of it safe where the operation is so near the heart; in parts more remote, this

practice might be attended with extreme danger. Animal heat, blood, and consequently lymph, will be so abundantly afforded, that we can have little to fear from want of action, even where the general system is greatly reduced. But to conclude, although I should most rigidly enforce this plan of treatment, believing that it would materially promote the end in view; yet I must believe, that since the hemorrhage occurred so late in the case of Dr. Mott, and still later in that of Dr. Graefe, that the material defect in their cases was the use of unsuitable ligatures. By these inflammation was increased, prolonged, the vessels cut, and the wounds long kept open, which, under the dissoluble ligature, would have healed in a few days.

*To be continued.*

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ART. VI. *Case of Prolapsus Ani, in which the Gut was extirpated.* By J. W. BRITE, M.D., New Castle, Kentucky.

ON the 25th of September, 1825, I was applied to for advice and medicine for a coloured child, about three years of age, who was labouring under prolapsus ani, which I was informed was of recent date. I prescribed some of the usual remedies, and directed the master of the child, to return the rectum by gentle pressure, &c.; and retain it with the T bandage. I heard nothing more of the case, till the 13th day of October, at which time I was sent for to visit the child. Upon examination of the case, I found it to be chronic. The mistress of the child informed me, that its bowel had been down for some five or six weeks, and that the child had laboured under a diarrhœa for eight or nine months, previous to the prolapsus taking place. He was much debilitated and reduced, with about five or six inches of rectum exposed, and occasionally straining as though he wished to void hardened feces; the prolapsus was much swollen and indurated, with several ash coloured spots on it, with a firm stricture about two inches from the edge of the sphincter ani muscle. I made some efforts to reduce it, but the stricture had become prominent, and I found that my efforts were all ineffectual. I then endeavoured to reduce the swelling, by light scarifications and evaporating washes, together with some antiseptic applications, ordered some aperients for the bowels and left him, with a request that I should hear from him the next day. I did

not, however, hear from him till the nineteenth, when I visited him again, and found the prolapsus covered with gangrenous spots; the child was restless, and labouring under considerable symptomatic fever, and the powers of the system evidently giving way—loss of appetite with great prostration of strength, his pulse feeble and frequent; I ordered wine and bark internally, and a strong decoction of the bark of fetid buck eye, to be thickened with wheat bran, and frequently applied to the part warm. (This last remedy, as an antiseptic, is, I believe, superior to any given in our dispensatories.) These remedies were used for two days with some abatement of the symptoms, both general and local; but I had no prospect of a permanent cure, but on the contrary, I believed the child must ultimately sink under the weight of disease, which had become constitutional as well as local. I therefore proposed to his master, the amputation of the whole of the pendulous tumour, which would take off, probably, the whole of the rectum. I also informed him, that such an operation would be hazardous, but that I believed that it was the only remedy for my patient. It was abundantly evident to his master and mistress, as well as all who saw the child, that death must soon close the scene, if some remedy could not be found for its relief. They, therefore, readily consented to any operation that I might think advisable. I immediately determined upon the removal of the prolapsed rectum, as the only remedy for my little patient. I acccordingly, in the presence of two of my pupils, Mr. Frame and Mr. Adams, proceeded to remove the whole of the tumour, by a direct excision of all that portion of rectum that was exterior to the sphincter ani muscle; the incision was made about one and a half inch above the stricture of the prolapsed gut. There were two small bleeding arteries, which were secured by ligatures. His master, Mr. Michael Smith, held the child on his lap while the operation was performed. At the complete section of the gut the child made some strong expulsory efforts, and threw out some fifteen or twenty inches of colon; this was immediately replaced, and I introduced my finger into the caliber of the intestine, raised the child's hips, and endeavoured to place the bowel as near its proper position as possible. I found that there was not more than an inch of rectum remaining. I then applied a pledgit of cotton, previously wet in a strong solution of alum, to the parts, and bound all tight with a T bandage; gave him some stimulating cordials, as he was fainty, and laid him down to rest. In about half an hour a troublesome tenesmus came on, and

he threw out by the bandage three or four feet of the colon. I removed all the bandaging, replaced the colon, raised the hips and caused it to recede into the abdomen, holding the end with my finger in contact with the constrictor muscle, and then applied a pledgit of cotton, wet in warm laudanum, to the parts; re-applied the T bandages, and also a broad and firm bandage round the abdomen; fastened the T bandage to it, and carried straps over his shoulders to render it permanent; in this situation, with his thighs semi-flexed on the abdomen, I laid him down to rest, again gave him ten drops of laudanum; he laid easy, and soon fell asleep; I remained for two hours, and he rested well. I then ordered a diet of rye mush and maple sugar, which was not to be varied for any thing else, and only to be taken in moderation, at intervals of six hours; drink cool water, *after* being boiled and settled. And when he wished to evacuate the bowels, for his mother to hold him erect. Ordered a few drops of laudanum to be given occasionally if he should become restless. I visited him every day for ten or twelve days; the rye mush and sugar kept his bowels in a soluble condition, and I did not find it necessary to alter my prescription for any thing else, but directed the bandages to be re-applied as at first, after each alvine discharge, which took place about twice in twenty-four hours. After the twelfth day I ceased to visit him daily, as the cure was progressing so well, but directed that no alteration should be made in the treatment for twenty days longer; but if any symptom occurred varying from the uniform progress of the cure, that I was to be informed of it immediately. I heard nothing more from the case, except that the child was doing well, till the 26th day of November, which was about twenty-five days from the time I had seen him last, when his master came to me by night, and informed me that he believed the child I had operated on would die, for he had not had a passage from his bowels for a week. I was at that time confined to my room from indisposition, and could not ride in the night. I requested him to call on my friend Dr. Drane, and request his attendance on the child; he accordingly did so, and when the Doctor arrived, he found the child swollen very much, with great prostration of strength, &c.: he examined him per anum, and found that the intestine was permanently closed. He made several attempts to introduce a bougie, but failed; he then gave a dose of laudanum, and returned home. Early in the morning the Doctor visited me, and gave me this information. I requested him to visit the patient with me, and with his assistance got on my horse, and we rode out

four miles, when we arrived. I found, upon inquiry, that the child had been eight or ten days previous sent out to the kitchen, and its mother had given it any and every kind of diet; had paid no attention to its bowels, and she could not tell that it had had an evacuation for eight or ten days. Its abdomen was at this time distended as far as the muscles and skin would admit it without bursting; the chest was much distended also, and it breathed with great labour and distress; its pulse almost imperceptible; its gums and tongue white. Upon an examination per anum, I found the intestine retracted about two inches from the anus, and firmly closed. I resolved to open it, which I did by forcibly introducing a grooved director, and in it a probe-pointed bistoury, and slit up the gut about an inch, upon which there flowed out a quart or more of liquid feces; the child breathed better, the swelling of the abdomen subsided measurably, the feces continued to flow occasionally until the whole of the swelling subsided. I ordered some wine and water, and the rye mush and sugar again, with occasionally a little soup, and directed that its mother should twice a day introduce her finger entirely within the caliber of the gut, and keep it open, which she did for ten or twelve days, when the incision healed on its edges, and left a perfect anus. The child rapidly recovered, and is now, the 22d day of March, 1826, in perfect health, and fat.

On examination of the extirpated rectum, I found, immediately above the stricture, five fleshy tumours or tubercles in the rectum, the largest the size of the first joint of a man's little finger, and the others were each one gradually smaller, till they were reduced to the size of a common bean; they were attached to the mucous membrane of the intestine by a broad base, so that if the stricture had cut the rectum off, the cure would not have been complete, and they were seven or eight inches from the anus, so that they could not have been reached by a ligature.

I have never seen a case recorded of an entire extirpation of the rectum; Hay gives some cases of one side of the inner membrane or coat of the rectum being extirpated by himself. There are frequent extirpations of hemorrhoidal tumours; I have several times extirpated them myself; and in the case of my worthy friend Mr. ——, a few weeks ago, I removed the whole of the inner coat of the rectum, two inches in length, which had come down from a hemorrhoidal affection of six or seven years standing. He recovered perfectly in ten or twelve days from the operation, and commenced his avocation of clerk in a store.

ART. VII. *Observations and Facts on the Use of Tobacco in Tetanus, &c.* By Dr. S. JACKSON, of Northumberland, Pennsylvania.

IN the beginning of last January, one Philip Anthony, a well known character in this town, injured the back of his hand with a sharp splinter of bone. The wound was closed, and apparently well, at the end of three days, when the first symptoms of tetanus supervened. In two hours after this new complaint was perceived, I was called, for the first time, and found him labouring under severe pain, which came on in sudden twitches every two or three minutes, and reached from the wound up the arm to the neck and jaw. The arm was frequently convulsed with these fits of pain, and so possessed with spasm as to be constantly as inflexible as iron; the jaw was partially locked, the face flushed, skin moist, respiration hurried, the mind impetuous and troubled but not incorrect, the pulse at a hundred, quick and salient; the pain at the ensiform cartilage shooting through the breast to the back, which is so constantly pathognomonic of this disease, was very severe.

A free incision was made into the scar of the wound, and filled with strong juice obtained from tobacco prepared for chewing. Half a pound of this article was then boiled with two or three quarts of water, and the decoction thus obtained was thickend into a cataplasm with ground flaxseed, and thus a poultice was made to envelop the limb from the fingers to the shoulder. The heat was confined, as much as possible, by blankets, and the cataplasm changed for a fresh one every six hours. A similar application was made to the scrobiculus cordis, not for the purpose of subduing the pain at this part, but rather, to operate on the whole system through the medium of the stomach. No other medical means were used at this time, it being my intention to give the tobacco a fair trial of a few hours, and then to use it internally if the symptoms did not yield. He was ordered to nourish himself freely with soup, and to aid his digestion with a little whiskey, an article he had long used in excess.

In six hours, it was very apparent that the poor man's symptoms had ameliorated, and, therefore, the same means were continued, without any other addition than that of castor oil to open the bowels.

Thirty-six hours after the first application, the tobacco produced some nausea, and so much vomiting on the third

day, that the whole complaint appeared to be subdued. His stomach was now restored with cordial nourishment, drink, and Huxham's tinct., the wound dressed with basilicon, and the affair supposed to be over. But, on the same day, an erysipelas began at the wound, and spread rapidly up the arm. The patient had been long addicted to intemperance, and he was now too far exhausted to bear depletion: he was, therefore, put upon low diet, and lead water applied to the arm.

The disease gradually receded, but, on the third day of the erysipelas, when the inflammation was not quite gone, *mania a potu* came on, which would have been avoided by a liberal use of opium for the last few days, had I not been ignorantly told, by one of his friends, that he had not used much stimulus for the last six months. Sinapisms were constantly used and moved from place to place, he was directed to take strong soup, and half a gill of spirits with two grains of opium every two hours, and, every intervening hour, to take twenty grains camphor in mucilage of gum arabic. It was, however, of no avail. It was continued for two days and one night, when the patient, having slept none for three times twenty-four hours, and every symptom rather worse than better, I ordered ten grains opium to be given every two hours, till sleep should supervene. The third dose procured four hours sound and salutary sleep, when the medicine was resumed. But, one dose of ten grains now supplied the place of the former three, and thus, by a careful diminution of the narcotic and other stimulus, the poor man was restored to health.

Perhaps some of our younger readers, who may look into Cullen, or Thomas' Practice, may dispute with me the name of the disease. However this may be, I have seen tetanus begin with milder symptoms and close with death within twenty-four hours, and particularly in one case that occurred in the Pennsylvania Hospital, about the year 1810. In books we find the symptoms of disease, but, practice alone can teach the variable combinations of them. Had Anthony's case run on for a few hours longer, the most potent medicines might have proved utterly unavailing.

Whether tobacco has ever been used with success in this disease, we have not learned, having for many years had but little oral communication with medical men, and, therefore, been obliged to acquire our information from books, &c. In Mason Good's elaborate work, which we might expect to contain an epitome of what ought to be known, there is not one word said concering it, under the head of tetanus, even

in the fourth edition. The article Tetanus, in Rees's Cyclop. says, that Mr. Earle tried it "in a very acute case, in which, although it afforded a temporary relief from spasm, so much agitation was produced that it was not persevered in;" and further, "according to the report of Sir James M'Gregor, tobacco glysters, tried in the advanced stage of the disease, seemed to have no effect." In the advanced stage of a bad case, we presume that nothing would take effect, which would not at the same time kill the patient.

That the mere external use of tobacco, however early applied, would subdue every case, we are very far from presuming; but that something might be accomplished by a combination of its powers, we can have no shadow of doubt. If it be applied directly to the wound, to the whole limb, to the stomach, and at the same time given internally in the form of tincture, surely many cases of this direful malady will be found to yield. But the great difficulty consists in ascertaining the dose with which we ought to begin, for loss of time is death to the patient. In the external application we can hardly err, since the cataplasm can be removed at pleasure; but the internal use of this deadly poison is truly a dreadful task, which cannot fail to rouse all our faculties. Of course, I am not now talking of a small dose, in dysury or dropsy, but of a potent potion, which may subdue spasms, and which may perhaps subdue them too soon, and then land the patient in the other world. Sometimes, upon giving large doses of laudanum, we have trembled for the fate of our patient, upon finding the spasms subdued; what, then, would have been our feelings, with a dose of tobacco in his stomach or rectum?

Every medical man knows that when pain and spasms are present, the necessary quantity of laudanum is sometimes truly alarming. In illustration of this, and also of the use of tobacco, we will here relate, with all possible brevity, the case of Champlain, a strolling player, who died in this town, of nervous colic, in the winter of 1823. His pains were conquered in about 20 hours, by the use of opium internally, and tobacco to the stomach, when he demanded a strong cathartic. I remonstrated with him in vain, and as he was a stranger, and not accustomed to my regimen, he procured a dose of his own composition, cal. scammony and gamboge. This had not been taken two hours till I was called, with information that he was suffering extreme torture. The spermatic chords appeared to be the seat of his pain, which was so severe as to extort from him continual screams. Two drachms of laudanum were

given, and he was quickly put into a warm bath; his pains were immediately moderated, and in half an hour they were entirely gone; but he had not left the bath ten minutes till they returned with greater force than before. Two drachms of laudanum were again given, and he was again put into the bath, but the pain increased and spread to his bowels even while he lay covered to the neck with warm water. His cathartic had not operated, unless in producing these fatal spasms. He was now bled to fainting while sitting in the bath, his belly covered with a tobacco poultice, and an enema administered, made by pouring half a pint of boiling water on three drachms of leaf tobacco, and then boiling for twenty minutes.* All this was done while he remained in the bath, but no abatement of the pain followed; his screams were terrific to hear, and would have extorted sympathy from more than Roman obduracy. He was once more bled to fainting, but with the same result as before: his blood was not inflammatory at either bleeding.

Having been in the bath several hours, he was finally put to bed, laudanum was given frequently, and in such quantities, as to make me very uneasy as to its effect; and the strength of the tobacco injections was increased, till at last several of them were made by boiling a fourth lb. of what is called pig-tail for one enema. Most of them were retained from a quarter to half an hour. At last the pain gradually died away, about eighteen hours after the last attack, leaving the patient greatly debilitated, but by no means overcome with sleep. A large blister was then applied to his belly, and he was ordered a grain of opium, and two of calomel, every two hours, and desired to take soup in frequent and small quantities. This was at daylight, just twice twenty-four hours after the first attack.

His blister drew well, and he frequently slept so long, as to interrupt the use of medicine and nourishment; the pain returned no more. The following night a purging came on, and prodigious quantities of black, and lastly, green bile came away; but his strength sunk rapidly, he became delirious, refused all food, entertained the family with songs, and died the beginning of the fourth day. The next evening, I opened the abdomen, with the assistance of Dr. Wm. H. Magill of Danville.

The bowels were almost empty, and, in several places, they were deeply tinctured with green through all their coats, and yet these green spots appeared nearly, if not quite, as

* This dose was of course too large for common use—see postea.

strong as natural. I supposed that the spasms had partly destroyed the vitality of these parts, and thus had rendered them permeable to the bile. There was no appearance of inflammation, or gangrene, nor any other sign of disease, than the above mentioned green spots. Had this man not become delirious, he would have been nourished, and restored to health.

The quantity of laudanum, and the strength of the enemata used in this case, I have been almost afraid, and ashamed to relate.* I was greatly debilitated by previous sickness, and harassed with the unparalleled torture of the patient. Therefore, on making notes of the case, my recollection did not serve me, as to the exact quantity of laudanum, or the number of enemata; but I well remembered, through the tormenting scenes of this busy night, that several injections were made, of the strength above related, and thrown up with a syringe, by a man accustomed to the operation; that no nausea, no cerebral affection, none of the distressing symptoms of an overdose of tobacco followed, and that none supervened; when under this treatment, the spasms finally yielded.

To proportion the doses of medicine to the force of disease, will baffle for ever, occasionally, the most skilful physician, nor, can any one assert, that he ever does more than make to it a near approximation. Opium is no doubt, the proper remedy for spasm, and, taught by this principle, Dr. Archibald ———, first taught the world, that more than a hundred grains of opium, might be given daily, in tetanus, and with final success. In a patient of Dr. Baskins, of Selinsgrove, we gave about 160 grs. daily, for several days, with some apparent amelioration of all the symptoms, but, in the midst of our hopes, a sudden convulsion carried off the patient. Caustic issues had been liberally opened, according to the method of Dr. Hartshorne. Dr. Thomas tell us, that "many cases are on record, where an ounce of opium in substance, has been given in the course of twenty-four hours, the spasms having been very frequent and violent."* To these *many* cases, he gives us no reference, nor does he tells us, whether they ended in life or death. In the same careless manner of writing, Dr. Mason Good tells us, that "Dr. Gloster, of St. John's, Antigua, gave to a negro labouring under tetanus, not less than 20 grs. every three hours, in conjunction with musk, cinnabar, and other medicines; and continued it with

* Third Lond. Edit.

but *little abatement*, for a term of seventeen days, in the course of which, the patient took 500 grs. of this narcotic."* Now 20 grs. every three hours, is 160 grains every day, making in the seventeen days 2720 grs. It is not a *little abatement* that reduces this sum to 500! In the same page, he has something more to the purpose—a drachm of solid opium was given at one time. "This, however, proved too high a dose; for the induced stupor was accompanied with very laborious respiration, and nearly an extinction of the pulse, and the patient was obliged to be roused by stimulants. He recovered ultimately." An ounce in twenty-four hours, and a drachm at a dose, are heroic prescriptions, and not to be generally imitated.

In cases, however, wherein opium can be used thus freely, we are taught from analogy, that tobacco is not to be commenced in small doses. Where the system is occupied with pain and spasm, we must endeavour to ascertain something near the adequate quantity—a difficult and dangerous task, requiring the utmost attention. Experience has done much in determining the relative dose of opium, but opportunities of using tobacco are few and transient, and most men are unwilling to communicate concerning a medicine, of which they have but little experience. Hence, we fear, it will long continue to be a last resort, rather than a primary refuge and anodyne.

In cases wherein the physician might be tempted to overstep nature with these heroic doses of opium, or tobacco, do not Dr. Physick's tube and syringe, afford some hope of safety? Not that we would voluntarily incur the necessity of using them, but who can say what he may be tempted to do, when he feels the necessity of acting promptly, in order to save his patient from inevitable death? For we must remember, that these are cases that do not cure themselves. In the above instance, in which a drachm of opium was given at a dose, the patient probably owed his life to the intrepidity of his physician.

* But, we believe, this was the Dr. Archibald ———, above mentioned, and, if so, he gave 1700 grs. in 17 days The case is recorded in one of the early volumes of the Amer. Philos. Trans.

ART. VIII. *Case of Emphysema.* By Dr. ROBERT ARCHER, Surgeon of the U. S. Army, at Fortress Monroe, Va.

AN interesting case of emphysema has recently come within my notice. I think it worthy of record, first, because when unconnected with injury of the thorax, it is of rare occurrence; and secondly, to demonstrate another of the endless variety of symptoms consequent upon the existence of worms in the intestinal canal.

On the 10th June last, I was called to see a child of Mr. T., between three and four years of age. I found it with fever, pulse about 120, abdomen hot and tense, respiration difficult and hurried, with slight tumefaction about the throat, attended with crepitation on pressure; it had been indisposed for two or three days, but the difficulty in breathing increasing, it was supposed to have the croup, and I was summoned in great haste to see it.

℞ Oxym. Scillit. ℥i.
Tart. Antim. iij.
Aq. Fontan. ℥ij.
In refracta dosi sumenda, pro vomitu.

The emetic operated well, and discharged a quantity of thick viscid mucus: ordered a warm bath, a blister to the epigastrium, and eight grs. sub. mur. hydr. at bed time.

About midnight was sent for, the child supposed to be dying. Dyspnœa increased, the forehead covered with a clammy sweat, pulse small and quick, emphysema astonishingly increased, and extended to the face and breast, as low as the scrobiculus cordis. Calomel had not operated.

The mother for the first time informed me, that prior to its illness it had exhibited marked symptoms of worms, and had passed two or three very large ones the day before I saw it.

℞ Spt. Terebinthin. ℥ss.
Ol. Ricini, ℥i.
Aq. Tepid. ℥ij.
Ft. enema.

The injection brought away three large lumbricoides.

℞ Submur. Hyd. gr. x.
Pulv. stat. sumend.

11th.—Much better. Calomel operated three or four times, bringing at each operation three or four worms. Fever re-

duced, pulse 90, respiration free, and the emphysema considerably abated.

R P. Jalap. } āā gr. v.
Calom. }

Pro dosi.

12th.—Copious alvine discharges since yesterday, generally attended with worms; no fever; emphysema to the sight entirely removed, but still a slight crepitation on pressure.

13th.—Discharged cured, and has continued to the present time as healthy a child as I ever saw.

This is the second case of emphysema, unattended by positive lesion of the lungs, that has occurred in my practice. I find, by reference to my case book, that a patient was admitted into the general hospital at Norfolk, in January, 1815, labouring under pneumonia, combined with colliquative diarrhœa, then considered a most alarming symptom. The usual remedies were tried in vain; the patient gradually sunk, and was reduced to the last extremity. I expected that night to close his mortal career. In the morning, however, I was surprised to find him not only alive, but his whole body, from his head to his feet, completely emphysematous. He said he felt better from the time he began to swell. The fact is, from this moment commenced his recovery, and by the time the emphysema had subsided, which was within ten or twelve days, he was able to walk about the hospital, and was in a very short time returned to duty. The remedies administered internally were of the simplest nature, together with camphorated spirits for frictions.

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ART. IX. *Description of an improved Instrument, for Extracting Poison from the Stomach; with some statements tending to establish the validity of Dr. Physick's title to the credit of having invented the Stomach Tube.* By CALEB B. MATTHEWS, M. D.

SOMETIME in June last, while reading a description of Read's Stomach Pump, in the London Medical and Physical Journal, it occurred to me, that some embarrassment and de-

lay must arise from the necessity of transferring the stomach tube, from the one valve to the other, in order to reverse the action of the instrument. With the view to obviate this defect, I have constructed a "*stomach exhauster*," of which the following description, with reference to the plate, may perhaps furnish a tolerably correct idea. It consists of a hollow tube, or cylinder of brass, of about four and a half inches in length, and one inch caliber: to each extremity of this tube, is adapted a cap, by means of a male and female screw. One of these caps is perforated with two holes at the end, a quarter of an inch in diameter, which are placed equidistant from the centre, being in the same straight line with it. One of these openings is closed by a valve on the inside, opening inward towards the cavity of the cylinder; the other is, likewise, closed by a valve which opens outwards, placed on the outside of the cap, and having a small plate of brass projecting over it, so as to prevent its raising too high. These valves are composed of leather, loaded with brass. Over these openings, on the extremity of this cap, a circular plate of brass, with a raised circular rim and milled edge, is placed; it is, also, perforated with two openings, three eighths of an inch in diameter, being of greater dimensions than those in the cap beneath, and at the same distance from the centre of the plate. This plate is so attached, by means of a screw, to the centre of the cap, that it may be turned round upon it at pleasure: and, in order to arrest it at the proper station, where the holes in the plate are adapted accurately to the valves in the cap, there is a curved spring attached to the former, the point of which catches slightly in a notch, of which there are two, opposite to each other, on the side of the latter. A thin piece of leather with holes cut in it, adapted to those in the cap and plate, intervenes between them, so as to render their junction water tight. To the openings in the plate of brass just described, are adapted two tubes of brass about half an inch in length, by means of a male and female screw cut on the tube, and in the opening. Into one of these tubes, a large sized elastic catheter is fixed, by a strong cement, and into the other, by the same means, the long catheteroid stomach tube of Dr. Physick. Lastly, through the cap on the other extremity of the cylinder, a piston rod passes, which is furnished with two brass plates of a circular form, and nearly of the same diameter as the caliber of the syringe; these screw on the end of the piston rod successively, having portions of buckskin placed between them, constituting the packing of the piston; they are retained by

duced, pulse 90, respiration free, and the emphysema considerably abated.

R P. Jalap. } āā gr. v.
Calom. }

Pro dosi.

12th.—Copious alvine discharges since yesterday, generally attended with worms; no fever; emphysema to the sight entirely removed, but still a slight crepitation on pressure.

13th.—Discharged cured, and has continued to the present time as healthy a child as I ever saw.

This is the second case of emphysema, unattended by positive lesion of the lungs, that has occurred in my practice. I find, by reference to my case book, that a patient was admitted into the general hospital at Norfolk, in January, 1815, labouring under pneumonia, combined with colliquative diarrhœa, then considered a most alarming symptom. The usual remedies were tried in vain; the patient gradually sunk, and was reduced to the last extremity. I expected that night to close his mortal career. In the morning, however, I was surprised to find him not only alive, but his whole body, from his head to his feet, completely emphysematous. He said he felt better from the time he began to swell. The fact is, from this moment commenced his recovery, and by the time the emphysema had subsided, which was within ten or twelve days, he was able to walk about the hospital, and was in a very short time returned to duty. The remedies administered internally were of the simplest nature, together with camphorated spirits for frictions.

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means of a nut of brass, which screws down tight upon them.

It will not be difficult to understand the operation of this instrument, for, if the long tube be detached, and passed into the stomach, and then screwed into the plate, so placed that it will be directly over the valve opening outwards, and if the catheter of course occupying the situation over the valve opening inwards, be immersed in a basin of clean water, it is plain that successive strokes of the piston will fill the syringe from the basin, and discharge it into the stomach. Having introduced a sufficient quantity, all that is necessary, in order to reverse the action of the instrument so as to evacuate the stomach, is to cause the barrel of the syringe and cap containing the valve to revolve half round, at the same time the plate to which the tubes are attached, being held stationary with the other hand. The long tube will now occupy the station over the valve opening inwards, and the catheter opposite the valve opening outwards; successive strokes of the piston will now fill the syringe from the stomach, and discharge its contents through the catheter, into a basin, or receptacle proper for that purpose.

In order to know the precise situation of the valves, and to prevent embarrassment, the words *in* and *out*, are engraved on the cap over the valves having those respective actions.

In addition to the purposes to which it may be applied, as a stomach pump, this instrument can be used for administering enemata, either to one's self, or to another, by passing the long tube into the rectum, the short one being placed in a vessel containing the enema, and the valves properly adjusted. In cases of obstinate constipation, attended with spasmodic strictures of the intestines, it will prove very serviceable, as it may be employed as a forcing pump, to throw in a large quantity of water, and thereby dilate the obstruction.* It is also applicable to the purposes of a double acting bellows, for inflating the lungs, in cases of asphyxia. This may be effected by detaching the cap, and applying it to a larger sized syringe fitted to it; the stomach tube being also laid aside, pass the small tube into the trachea, and prevent the air from regurgitating by external pressure; then adjusting

* If it be desirable to administer an enema of tobacco smoke, a curved tube with a screw on one end, and a common German tobacco pipe bowl with a lid to it, filled with tobacco and lighted, may be screwed into the plate, in place of the small catheter. And for injecting smoke into the ear, in addition to the above arrangement, a straight tube drawn out to a fine point, should be screwed into the plate, in the place of the large catheter.

the valves so that the one opening *out* corresponds to the tube, the operation is commenced by filling the syringe with air, which at the succeeding stroke of the piston, is forced into the lungs, so as to inflate them; this is withdrawn by the next retraction of the piston, into the cavity of the syringe, and is expelled into the atmosphere, by again pushing down the piston, after having altered by a semi-revolution, the relative position of the valves. To fill the syringe again, the valves must be placed as before, and the same manipulations pursued.

Having ascribed, in the foregoing pages, the invention of the catheteroid stomach tube to Dr. Physick, it may not be improper to state upon what grounds we do so, more especially as there are other claimants to the merit of this ingenious device. In doing so, we shall limit ourselves to an unvarnished detail of facts, as far as we have been enabled to collect them.

It appears that Dr. Alexander Monro, Jr., in his inaugural thesis, published 1797, suggests the use of a tube and syringe, as a suitable means for extracting poison from the stomach, it does not appear, however, that he ever employed them. About that period, the same plan occurred to Dr. Physick, without having met with the suggestion of Dr. Monro, to whom, however, he subsequently yielded the merit of having made this plan public previous to himself.

In the year 1800, Dr. Physick was called to the surgical chair in the university of Pennsylvania, and continued, from that time forward, to inculcate this among other useful inventions with which he has enriched our art, to numerous classes of students, who now constitute a considerable portion of the physicians throughout the union; in proof of this we annex the following certificates, obtained from highly respectable practitioners of this city on another occasion, in order to support Dr. Physick's claim against that of Dr. Thomas Ewell, of the city of Washington, who had the justice publicly to acknowledge Dr. Physick's title upon perusing them.

His claim was grounded on his having published, in the Medical Repository, of New York, in the year 1808, a paper "containing a proposition to relieve the stomach from poison by the use of a catheter."

No. 1.

"I do hereby certify, that in the years 1802, 3, and 4, I attended Dr. Physick's lectures upon surgery, and heard him recommend the introduction of a tube into the stomach, in

cases where poisonous substances had been taken, through which tube, fluid might be injected by a syringe and extracted again; thereby enabling the practitioner to remove such noxious substances from that organ.

Signed, ISAAC CLEAVER.

PHILADELPHIA, JUNE, 1820."

No. 2.

"I do hereby certify, that I attended Dr. P. S. Physick's lectures on surgery, in the years 1805, 6, and 7, that, in these lectures, the doctor exhibited a tube coated with elastic gum, brought by Dr. Dorsey from Paris, and made there by Dr. Physick's order, long enough to reach from the mouth into the stomach. With such a tube, Dr. Physick advised to inject water or other fluids into the stomach, and draw them back again by the aid of a syringe, in cases where laudanum or other poisons had been swallowed, and thereby to work them out of the stomach and introduce counter agents.

Signed, JOHN D. THOMAS.

PHILADELPHIA, JUNE, 1820."

No. 3.

"I remember that, in the winter of 1808–9, Dr. Physick informed me that he had an elastic tube, brought from Europe by Dr. Dorsey, for the purpose of injecting fluid into the stomach, and drawing it out again, in order to wash out poisonous substances, such as opium, &c.

Signed, BENJAMIN S. JENNY.

PHILADELPHIA, JUNE, 1820."

In the year 1803, Dr. Dorsey was in Paris, and had made, by Dr. Physick's order, a tube of the kind now generally used, constituted of the same materials as the French catheter, and resembling it, except in size. That the use for which it was designed was unknown in Paris previous to that period, is evident from a letter from Dr. Dorsey to Dr. Physick, dated 1803, and now in the possession of the latter, in which he states that the makers were curious to know what was the intention of so large a catheter. It was not long before they ascertained the point, and tubes have been since regularly imported from there, for the supply of physicians in the United States.

In the year 1809, Dr. Dorsey employed the instrument, but unsuccessfully, as the patient died, owing to twelve hours having elapsed before his arrival. In 1812, Dr. Physick had an opportunity of employing it in a case of twins, to whom

the parent had given too much laudanum, one of them died, the other recovered. This case was published in the Eclectic Repertory for October, 1812, and has been republished in the second number of the Medical Recorder for 1823.

Since that period, it has proved successful in a great many instances, and has become so common a mode of removing poison from the stomach that almost every physician, even in the country, is furnished with a tube and syringe for that purpose.

With a knowledge of the foregoing facts, our surprise may readily be conceived, when we heard of the invention being announced in the London Medical Repository, for Oct. 1822, as of recent origin, and claimed for Mr. Jukes, of Westminster. And, also, in the London Medical and Physical Journal, for that year, a description of his method by himself, and another modification by Mr. F. Bush, surgeon of Frome, who also claims the honour of the invention. Mr. Bush's mode, is the same as that invented by Dr. Physick, nineteen years before; namely, a tube and syringe. That of Mr. Jukes, differs in having an elastic gum bottle, to supply the place of the syringe, which we think no improvement; and his tubes are furnished at the end, with an ivory ball perforated with holes, which will be found rather disadvantageous than otherwise, more especially, as it is often necessary to pass the instrument through the nose into the stomach, in consequence of the patient proving refractory, and holding the mouth firmly closed, which would be impossible with the ivory ball affixed.

From the foregoing statement, it will be admitted by every candid individual, that the merit of the invention, is strictly due to Dr. Physick, though that of original suggestion, is divided between him and Dr. Monroe. It will also be perceived, that he was the first to carry it into successful operation.

*Description of the annexed Plate.*

Figs. 1 and 2. *a*, *a*, The body of the syringe.
*b*, A cap that screws off at the upper end.
*c*, *c*, *c*, The piston rod.
*d*, A cap that screws off at the lower end.
*e*, Another shallow cap, or plate, with raised margin, and milled edge fitted on the last, and capable of being turned round upon its centre, which is fixed to the cap *d*, by means of a screw, *i*.

*f*, A curved spring catch, attached to the rim of plate *e*, by means of which, this plate is held stationary at the proper situation for bringing the valves and tubes into correct apposition.

*g*, *g*, Short brass tubes, with screws cut on one extremity, by which they are attached to the plate *e*, at the openings *n*, *n*, through it.

*h*, 1. The catheteroid stomach tube of Dr. Physick, sealed into the larger brass tube by means of strong cement.

*h*, 2. A common catheter of large size, fixed in a similar manner to the lesser brass tube.

*i*. The screw by means of which the plate *e*, is attached to the cap *d*, and round which it is capable of being moved in the direction of its circumference.

*k*, *k*, Two brass plates screwed successively on the lower end of the piston rod, having circular portions of soft sheep skin between them, to serve as packing. They should be nearly of the same diameter as the caliber of the syringe, and be secured by a brass nut.

*l*, *l*, Notches cut in the side of the cap *d*, to receive the spring catch.

*m*, *m*, Valves placed in the cap *d*, one of them opening inwards, and the other outwards; the latter is prevented from rising too high, so as to interfere with the motions of the plate *e*, by means of a projecting piece of brass. *o*.

*n*, *n*, Circular openings through the plate *e*, being directly over the valves when in situ, and like them equidistant from the centre, and in the same straight line with it.

*o*, The projecting piece of brass before mentioned, to restrain the action of the outer valve.

*p*, A thin portion of leather, having holes cut in it, to correspond with those in the cap and plate, between which it intervenes, so as to render their juncture impervious to water.

N.B. The plate represents nearly the correct dimensions of the instrument. If a larger size is preferred, there is no objection to it, except that it will be less portable, than one of the dimensions given.

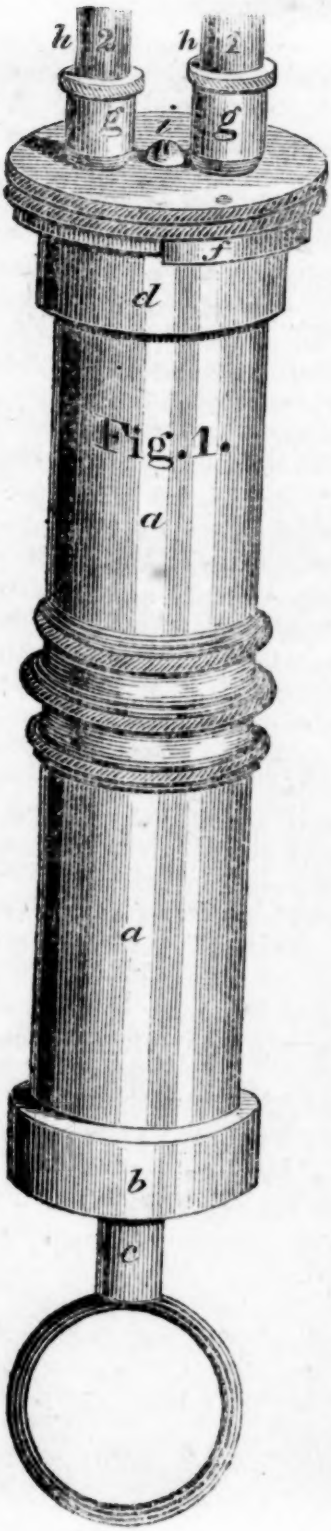



Fig. 1.

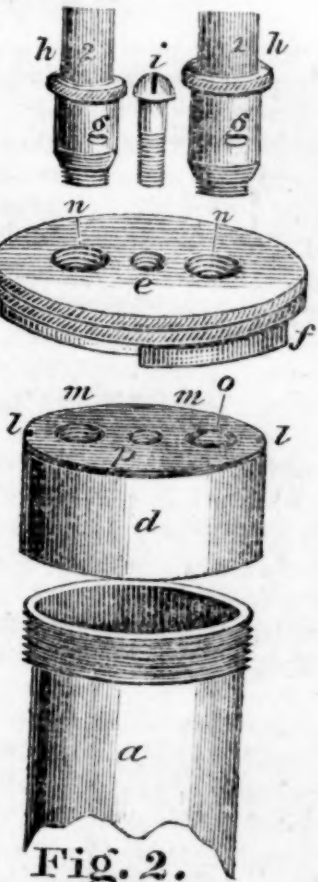
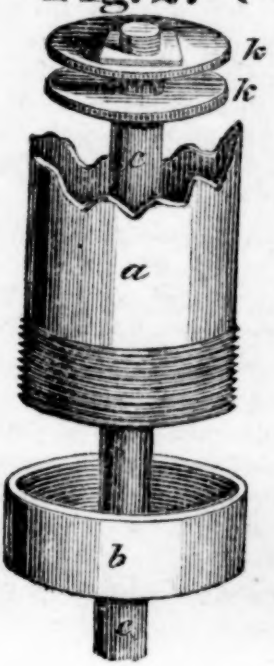



Fig. 2.



# REVIEWS.

Quidquid venerit obviam, loquamur
Morosa sine cogitatione.—*Martial.*

ART. X. *The Lectures of* Sir Astley Cooper, Bart. F. R. S. Surgeon to the King, &c. &c. *on the Principles and Practice of Surgery, with additional Notes and Cases.* By FREDERICK TYRREL, Esq. Surgeon to St. Thomas' Hospital, &c.

(Continued from page 192, last number.)

"He was occasionally bled, kept perfectly quiet, and pressure applied on the tumour. June 19th, a slough was observed on the exterior part of the swelling, below Poupart's ligament, which, in part, separated on the 20th, and he had some bleeding from the sac, but it was easily stopped by a compress of lint, confined on the part by adhesive plaster. On the 22d, after some slight exertion, he bled again, but not profusely. 24th, the bleeding again recurred, but stopped spontaneously. 25th, about half-past two o'clock, in consequence of a sudden mental agitation, bled profusely, and became so much exhausted, that his fæces passed off involuntarily; but Mr. Key, then my apprentice, succeeded in preventing immediate dissolution by pressure. At nine o'clock the same evening I saw him, and found him in so reduced a state, that he could not survive another hæmorrhage, with which he was every moment threatened. Yet still anxious to avoid opening the abdomen, to secure the aorta near to its bifurcation, I made an incision into the aneurismal sac, above Poupart's ligament, to ascertain if it were practicable to pass a ligature around the artery from thence. On introducing my finger, I found that the artery entered the sac above, and quitted it below, without there being any intervening portion of vessel; I, therefore, was obliged to abandon that mode of

operating; and as the only chance which remained of preventing his immediate dissolution by hæmorrhage, was by tying the aorta, I determined on doing it."

An incision three inches long was made into the linea alba, giving it a slight curve, to avoid the umbilicus; a small aperture was then made into the peritoneum, and with a probe-pointed bistoury directed by the finger, enlarged to nearly the same extent as the external wound. The finger was then introduced into the abdomen: passed between the intestines to the spine, and by means of the finger nail, the peritoneum was scratched through on each side of the aorta: the blunt aneurismal needle, armed with a single ligature, was conveyed behind the artery: the ligature was now tied, carefully observing that no portion of intestine was included within it, and its ends were left hanging out of the wound.

"During the operation the fæces passed involuntarily, and the patient's pulse, both immediately and for an hour after the operation, was 144 in a minute. I applied my hand to his right thigh, immediately after the operation, and he said that I touched his foot, so that the sensibility of the leg was very imperfect.

The omentum was drawn behind the opening as far as the ligature would admit, so as to facilitate adhesion; and the edges of the wound were brought together by means of a quilled suture and adhesive plaster.

He remained very comfortable until the following evening, when he vomited, and his fæces passed off involuntarily. 27th, Seven o'clock, A.M., had passed a restless night, and had vomited at intervals; pulse 104, weak and small; pain in his head; great anxiety of countenance; very restless, and his urine dribbled from him. He gradually sunk, and died at eighteen minutes after one o'clock, having survived the operation forty hours.

*Dissection.*—No peritoneal inflammation, but at the edges of the wound, which were glued together by adhesive matter, excepting at the part at which the ligature protruded. The thread had been passed around the aorta, about three quarters of an inch above its bifurcation, and rather more than an inch below the part at which the duodenum crosses the artery; it had not included any portion of the omentum, or intestine. Upon carefully cutting open the aorta, a clot, of more than an inch in length, was found to have sealed the vessel above the ligature; below the bifurcation, another, an inch in extent, occupied the right iliac artery; and the left was closed by a third, which reached as far as the aneurism:

all were gratified to observe the artery so completely shut in forty hours. The aneurismal sac, which was of a most enormous size, reached from the common iliac artery to below Pouparts's ligament and extended to the outer part of the thigh. The artery was deficient from the upper to the lower part of the sac, which was filled with an immense quantity of coagulum."*

In aneurisms of the radial or ulnar artery, situated at the wrist, it is right to perform the old operation, opening the sac, and tying the artery above and below the opening.

*Aneurism of the Scalp.*—The operation best calculated to cure aneurisms of the scalp is to cut directly across them, and to make use of pressure to stop the bleeding; to prevent the course of the blood through the swelling, and to produce adhesion of the sides of the sac. In a case where the tumour is large, "I propose to make a circular incision around the sac to the bone, to divide all the vessels which feed it, and then to make use of pressure upon it." Dr. Gibson, in a case of very extensive aneurism of the scalp, having made an incision around the tumour, secured the principal vessels, and removed it entirely; the patient speedily recovered.

*Aneurismal Varix.*—"No operation has been required for this disease, in any case which I have seen it, as it is not a dangerous state, either to the life or even to the arm." When it has recently occurred it may be cured by pressure.

LECT. XVI.—*Hydrocele* is an accumulation of fluid in the tunica vaginalis testis. It is generally unattended with pain; upon accurate examination of the swelling, it is found to be transparent, and has a distinct fluctuation. The testis is generally placed two thirds of the swelling downwards, and at the posterior part of the scrotum.

Sometimes it is the result of inflammation of the testis, when it is preceded by pain, redness, hardness, and swelling of the part, which assumes more the form of the testis itself, and is less distinctly transparent.—"The fluid which hydrocele contains resembles serum; like it, yellow and transparent; like it, coagulable by heat, by acids, and by alcohol: it coagulates in port wine and in solutions of the sulphate of zinc, used as injections."

* "In an operation which I lately performed of tying the external iliac artery much above Poupart's ligament, I think I could with little difficulty have reached the aorta, by turning up the peritoneum without dividing it; and should I again wish to put a ligature on the aorta, I should prefer this method to the one I have before adopted."

*Varieties.*—The disease sometimes exists on both sides of the scrotum, and when this is the case the swellings must be cured in succession. The testis varies in its situation in this disease; it is sometimes glued to the fore part of the tunica vaginalis, and the serum is accumulated on each side of it; it will be proper here to introduce the trochar from the side instead of the fore-part. Hydrocele sometimes forms two swellings, one in the scrotum, another at the abdominal ring, with a smaller swelling of communication between them. Two distinct hydroceles are some times formed on the same side. A cyst is occasionally found growing between the tunica vaginalis and the tunica albuginea, upon the surface of the testis. Hydrocele some times communicates with the abdomen; our first step here should be to obliterate the communication of the tunica vaginalis with the abdomen, by the application of a truss, before proceeding to an operation; Sir Astley mentions a case of this kind which was cured by the truss, for when the opening was obliterated by its pressure, the water became entirely absorbed. "Where hydrocele communicates with the abdomen, and there is abdominal dropsy, it is very convenient to tap the patient through the scrotum."

Loose cartilaginous bodies are some times found in the fluid of hydrocele, and when it has existed a great length of time, the tunica vaginalis becomes thickened like parchment, and consequently opake, and in some instances it is completely ossified.

*Diagnosis.*—Fluctuation and transparency are diagnostic marks of hydrocele. "Diseased testis is distinguishable from hydrocele by the latter being less heavy. The diseased testis is more flat on the sides than hydrocele, and more solid; pain is also produced by squeezing the testis; the epididymis is often capable of being felt as a distinct tumour; the cord may be traced with facility in the diseased testis; there is great vascularity of the scrotum; pain is felt in the loins generally; there is often the appearance of loss of health in disease of the testicle," whilst in hydrocele the general health is unaffected.

It is distinguished from hernia by the occasional return of the hernial swelling into the abdomen; by the dilatation of hernia in coughing; by hernia descending from the abdomen, and by hydrocele growing from below upwards; when combined, the hydrocele is placed before the hernia. From varicocele it may be distinguished by placing the patient in the recumbent position, in which varicocele disappears.

"Common hydrocele is rather the result of relaxation of the arteries, in which their mouths pour out more fluid, than

it is the effect of inflammation;" it is generally merely a local disease, but is some times connected with a general hydropic disposition.

*Of the Natural Cure.*—If an hydrocele becomes of large size, and the patient has to labour hard for subsistence, inflammation of the tunica vaginalis and scrotum will arise from excessive distention. "A slough of the scrotum and tunica vaginalis is produced, and, as it separates, the water escapes: a suppurative inflammation succeeds, granulations arise, and the patient in this way receives his cure." It is some times cured by a blow which tears the tunica vaginalis.

*Of the Cure by Absorption.* "This disease is, in young people, very generally curable by absorption. If a child be brought to me with hydrocele, I direct a little calomel and rhubarb occasionally, and order a suspensory bandage, which is to be kept wet with the muriate of ammonia and liquor ammoniæ acetatis, in the proportion of ʒij. of the former to ℥vj. of the latter. This, after a short time, produces excoriation, and leads to the absorption of the fluid. The tinctura lyttæ may be added, if the fluid does not absorb quickly." When it is the result of inflammation of the testis, the same treatment often succeeds in the adult; it has, however, no power over the common hydrocele of the adult. When the general health forbids an operation, which although mild is attended in some constitutions with risk, the water should be removed by tapping; this some times succeeds, although very rarely, but to give the patient the best chance, a strong stimulating lotion may be applied. Exercise immediately after, some times produces sufficient inflammation to effect a cure. If the disease very soon reappear after this operation, it is a proof of an hydropic disposition, and "it is right to give submurias hydrargyri, with squills, at night, and tincture of digitalis, spiritus ætheris nitrici and mistura camphorata twice in the day."

Lect. XVII. *Operations for Hydrocele.* The operations recommended by Sir Astley, are 1st, Injection; 2d, Seton; 3d, Incision. The object of the two former is, to excite adhesive inflammation, and to change the action of the part, so as to prevent further secretion; in the latter, to fill the cavity with granulations.

For the first of these operations we are indebted to Sir James Earle. "The fluid which is used as an injection is, either equal parts of port wine and water, or sometimes, when a person has been very unirritable, and the operation has failed, two thirds of wine, and one third of water, or ʒj. of

zinci sulphas to ℔j. of water, or one sixth of spir: vini to five sixths of water. Cold water itself succeeds often very well, but I have known it to fail."

When the injection has been thrown in, the patient soon feels pain in his groin, next in the spinous process of the ileum and then in the loins, sometimes the neck of the bladder suffers—as a general rule, the injection should be allowed to remain five minutes in all adults; in the young, three minutes will suffice. The tunica vaginalis should never be distended with the injection, but less fluid thrown in than was removed, for if much be injected, "the cremaster contracts, and forces a part of it by the side of the canula into the cellular membrane of the scrotum."

The success of the operation depends much on the after-treatment. The suspensory bandage is not to be reapplied, and the rules laid down by Sir Astley, for the patient, are these: "If you are in much pain, lie down; if you suffer but little, take exercise; if you be in much pain, eat very little and drink only diluents; if you suffer but little, take your dinner and two or three glasses of wine; if on the morrow, there be redness in the scrotum, considerable tenderness, and some swelling, apply the suspensory bandage, use moderate exercise and light diet; but if there be little appearance of inflammation, it is right to grasp the scrotum in one hand, and with the other to gently tap it a few times with the fingers to produce slight pain. Recommend exercise and a generous diet, until redness of the scrotum, swelling, and pain in the part be produced; for the inflammatory swelling from the injection should be nearly as great as that which had previously existed from the disease.

The swelling continues increasing for a week, is stationary for a few days, and then declines, so that in three weeks it has subsided; the operation rarely requires a confinement of more than a few hours.

The operation some times fails in producing sufficient inflammation to effect a cure. Suppuration sometimes takes place after injection, in very irritable persons; it occasions delay, makes the operation much more painful, and renders confinement necessary, but it makes the cure more certain. The danger of the operation of injection, consists in throwing the injection into the cellular membrane of the scrotum; the canula not being passed into the tunica vaginalis, from which extensive sloughing will be produced.

*Incision.*—When some obscurity hangs over the nature of the case, as to its being connected with hernia, or enlarge-

ment or disease of the testicle, it is some times necessary to open the tunica vaginalis. An incision is begun at the upper part of the swelling, and extended two-thirds downwards; for if it be made to the lower part, it leaves the testis too much exposed. The water being evacuated and the state of the testis being learnt, as well as if there be any disease connected with it, a little common flour is sprinkled in, a poultice should be applied, and the cure is effected by suppuration and granulation; such an operation, however, is very seldom required, and as it is one of great severity, ought not to be had recourse to but in cases of great doubt with respect to the disease.

*Seton*.—"In cases in which hydrocele will not yield to stimulating lotions, used with a view to produce absorption in very young persons, I prefer to the operation of injection the following plan:—I pass a common curved needle and thread through the hydrocele transversely, about half way from the upper to the lower part of the swelling, including about an inch and a half of integument, and one inch of tunica vaginalis. I then tie the thread with a knot, leaving it loosely hanging in the tunica vaginalis and scrotum. No confinement is necessary; the child runs about as usual, until the part reddens, swells, and becomes hard, which is about a week; and at the end of that time I withdraw the thread, and the adhesive inflammation produces the cure."

*Hydrocele of the Spermatic Cord*.—This disease is of rare occurrence; the surgeon should be careful not to confound it with hernia. In the treatment of this disease, it may be injected, or an incision be made into it; "a seton made of introducing a common curved needle carrying a single silk, is a more lenient cure."

*Hæmatocele* is a collection of blood in the tunica vaginalis testis. The tumour is pyriform, like hydrocele; is not painful, does not affect the general health, and is attended with slight fluctuation, but it is not in the least transparent. "It is distinguishable from hydrocele by its weight being greater, by its want of transparency, by its obscure fluctuation, but most easily by its being usually the sudden result of a blow upon the part."

Hæmatocele now and then follows tapping in hydrocele, more especially if a lancet be used, examples of which are given; it is some times founded on hydrocele, "Dr. Saunders, formerly teacher of medicine at Guy's Hospital, had a hydrocele, for which he applied occasionally to Mr. Lucas, my colleague at Guy's, to have it tapped. In stepping upon a chair to reach a book, he fell against the back of a chair, and

received a blow upon the scrotum, which led to the recurrence, as he thought, of his hydrocele, and in a few days he went to Mr. Lucas to have it tapped, but upon the introduction of the trocar no water passed; the doctor then consulted several surgeons; and at length Mr. Cline made an incision into the part, and the tunica vaginalis was found full of coagulated blood, which was discharged, a poultice applied, and he soon recovered."

A case of hæmatocele, in which the testicle was removed by mistake, is given. The case assumed the symptoms and feel of a diseased testis, and the surgeon determined on its removal. On opening the tunica vaginalis, it was found excessively thickened, and filled with coagulated blood, of a brownish-red colour. The testicle was placed at the posterior and lower part of the swelling.

LECT. XVIII. *On the Diseases of the Testicle.* The testicle is some times, but not very frequently, subject to a peculiar change, viz. the formation of a number of cysts or hydatids within its substance.

This disease is generally unattended with pain or tenderness; the constitution does not suffer; the veins of the spermatic cord become varicose: it is attended with obscure fluctuation. "If the diseased part be firmly compressed, it gives the sensation of squeezing the testis; it gradually increases until it acquires great size, and then its weight becomes very inconvenient, and the disease produces considerable uneasiness in the loins, from the testicle stretching the nerve of the spermatic plexus."

*Diagnosis.*—It is often mistaken for hydrocele, and there is great difficulty in distinguishing them. "The marks of distinction are a less extensive fluctuation, a much heavier swelling, rounded upon the fore part, and flattened upon the sides; the entire absence of transparency; the sensation of the testis being squeezed under pressure; the varicose state of the vessels of the cord and dilated veins of the scrotum; a division of the swelling into two, viz. testis and epididymis. Testis not felt as in hydrocele."

The cause of this disease is unknown; the only remedy is extirpation of the testicle, which is required on account of the inconvenience resulting from its size, and from the pain in the loins, produced by its weight. Several cases are related, in which the operation was successful; in one case, however, fungus of the testicle existed with it, and the patient died.

The testicle is subject to two diseases of a malignant character, viz. the fungus and the scirrhus, the former of which

is by far the most frequent. It begins in an enlargement of the testicle; the swelling is hard and globular: the epididymis soon becomes affected; the pain is at first only occasional, and not severe; it at length forms adhesions to the surrounding parts, so that the scrotum, after a time, is only moveable over it at some points. "The disease extends by absorption into the abdomen, before the testis adheres to the tunica vaginalis and scrotum, and produces a cord which may be traced upon the psoas muscle by deep pressure to the region of the kidney, where it produces, just below the emulgent artery, a tumour, readily felt by pressure, when the abdominal muscles are relaxed."

"At first the constitution does not suffer, although the countenance of these persons is generally sallow at the very dawn of the disease, showing that the general health is in some degree defective. There is, sometimes, uneasiness of the loins, and sharp pricking pains in the thighs and legs; and as the disease advances, the leg, thigh, and foot, on the diseased side, become œdematous, and feel weak. For some time before death the patient loses his appetite, and gets but little sleep: he has profuse perspiration; the bowels are generally very irregular, as the tumour on the abdomen increases, though prior to that time they are regular, and there is some times an irritability of the bladder, and frequent inclination to make water. The iliac glands are also enlarged above Poupart's ligament."

Ulceration begins in the scrotum, and through the opening a fungous substance projects, which discharges a very large quantity of watery fluid; bleedings occasionally ensue from this fungus. If the testicle be pressed, a quantity of matter, which looks like putrid brain issues: the fungus sloughs, then the part discharges profusely, bleeds, and again sloughs, until the patient is exhausted by irritation and discharge; at this period the pain in the part is often excessively severe, and the patient has vomiting, and frequent attacks of diarrhœa.

This disease is sometimes very rapid in its progress; at others, it exists for years: the fact is, a simple chronic enlargement of the testicle, will remain stationary for a length of time, if the constitution be tolerably good; but if it become deranged, a malignant action is produced, and the disease assumes the character above described.

*Diagnosis.*—This is a difficult task. Sir Astley gives it as his decided opinion, that in hydrocele, hydatid, or fungous testis, no objection exists to introducing a lancet, to discover

the real nature of the disease. If it be hydrocele, the rush of water directly proves its nature. If it be hydatid swelling, a little water, mucus, and blood escape; and if medullary, blood only; sometimes a little brain-like substance appears on the lancet, which immediately informs the surgeon of the true nature of the complaint. "It does no mischief in the cases which it cannot relieve, and without it the surgeon's reputation is endangered, if he gives a rash opinion upon the nature of the disease."

This disease arises from a deranged state of the constitution; independent of which, there is also an altered local action. Such remedies as improve the constitution, may lessen or prevent the tendency to it. "The pil: hydr: submuriatis composita given at night, and infus: cascarilla, soda, rhubarb, and ammonia, given bis die, or hyd. c̄. creta, soda, and rhubarb, are the best medicines to improve the constitution." Leeches and evaporating lotions, upon general principles retard its progress; when ulcerated, solutions of alum, of sulphate of zinc and of copper, and diluted nitric and sulphuric acid, are of some use.

"If a patient applies to me with this disease, I treat him as I do a simple chronic inflammation of the testicle, and if it do not yield, I advise its speedy removal; for if the spermatic cord in the least participates, the operation does not succeed. All, then, that is left to the surgeon, is to improve the constitution first, next to effect the removal of the disease by the knife; and when this has been done, to give such medicines, and rules of living, as shall, by improving and preserving the health, change the constitution, and lessen the disposition to a return."

*True scirrhus* of the testicle, is an extremely rare disease; it will require the same constitutional and local treatment as fungus—if the cord be affected, the operation will not succeed, and, indeed, there is some danger to life in its performance. "In visiting the wards of Guy's Hospital, I saw a man who had a testicle very hard and considerably enlarged, and the cord of at least three times its natural size. I said to the students, 'It will be of no use to operate in this case, for the disease has extended beyond the reach of the knife.' One of the students, who thought himself wiser than the rest of the world, told the man, if he would place himself under his care, he would take a lodging for him, and remove the part. The man consented, and this young man removed the testicle, tracing the cord, as I was informed, very much towards the abdomen. Peritoneal inflammation succeeded, and

the man died in a few days, prematurely for the patient, usefully probably for the rest of life, to this foolish and presumptuous student."

LECT XIX. *Of the simple chronic enlargement of the Testicle.*—This is an extremely frequent disease, and one which has been mistaken for a malignant complaint of the part. It begins in hardness and swelling of the epididymis, at first unattended with pain; gradually increases until the testicle becomes involved; the epididymis may be traced quite separately from the testis; the patient's health appears generally but little affected; occasionally both testicles are affected at the same time; the surface of the testicles and epididymis remain quite smooth. In this state, it continues for weeks, or even months; at length suppuration ensues, which usually happens at the extremity of the epididymis: a sinus follows, which discharges seminal fluid; from this sinus, granulations spring and produce an exuberant growth, forming a prominent granular swelling upon the scrotum, says he, several times.

*Dissection.*—Before this disease was understood, Sir Astley has known the testicle removed for it, and the following appearances presented on dissection; in the adhesive stage, an uniform yellowish white adhesive matter loads the tissue of the part; the seminiferous tubes remain, but are separated by the effusion. In the suppurative state, upon cutting into the body of the testicle itself, a small abscess is found, containing pus, mixed with adhesive or fibrous matter; and this state of the testicle will sometimes render its removal necessary. These abscesses will sometimes, after discharging for months, and even for years, absorb the testicle, and if both are affected, impotence is the result.

*Causes.*—This disease sometimes depends upon a stricture in the urethra, which induces a sympathetic action in the testicle; now and then upon an irritation in the prostate gland, or in the prostatic part of the urethra. There is, however, in most cases, a state of constitution which predisposes to it, and without constitutional and alterative means, you will not succeed in curing it. It often succeeds syphilis, and occurs in delicate persons who have been exposed, during a mercurial course, to catching cold in inclement weather.

*Treatment.*—The following are the directions given by Sir Astley to the patient; under which treatment the disease generally yields:

"1st. Observe the recumbent posture for a month. It is

not sitting with your legs raised which will suffice, but to be absolutely recumbent is necessary.

"2d. Take two or three grains of submurias hydrargyri and a grain of opium night and morning, until the mouth be sore: and then such a quantity as shall preserve that tenderness of the gums for a month.

"3d. Apply leeches twice in the week, or let the patient stand before his surgeon and have the veins of the scrotum opened by a lancet.

"4th. Apply, upon the scrotum, equal parts of camphorated mixture and vinegar.

"5th. About every fourth morning, give an active dose of infusion of senna, with sulphate of magnesia and tincture of senna."

In two or three weeks, the size of the part will be reduced; and then, if the urethra be diseased, a sound may be introduced daily to remove any obstruction, and, in the course of four or five weeks, the disease will be cured. "Many testicles condemned for removal I have thus known preserved."

When the disease has proceeded so far as to produce an abscess in the testicle, it will sometimes require to be removed; when the abscess is followed by a large swelling, produced by an exuberant growth of granulations, try pressure with adhesive strips; or sprinkle the surface with powdered sulphate of copper, or nitrate of silver; or it may be removed by excision. "But when the epididymis and testicle are much involved, and there is much loss of substance in the scrotum, it is necessary to remove the testicle."

*Of the Irritable Testis.* The following are the symptoms of this disease:—"the patient has an uneasy sensation in a part of the testicle; it is tender to pressure, tender also in exercise, and unusually sensitive at all times. The sensibility of the part becomes occasionally so much increased, that the slightest touch is exquisitely painful: pain is felt in the back and groin: the motion of the part and slight pressure of the clothes, in walking, produce so much pain as to almost forbid exercise, and the patient finds no comfort but by reposing continually upon a sofa, or by remaining in bed. The testicle is little swollen, and the whole of the part is not equally tender. The spermatic cord sometimes partakes of this exquisite sensibility. If the part be not supported, the pain is scarcely tolerable. The patient is obliged to place himself in bed upon the opposite side to the disease, or he does not rest. He has pain in the thigh on the same side—the testis appears full and loaded. Motion, in most cases,

produces not only pain at the time, but additional uneasiness afterwards. The stomach is rendered extremely irritable, and vomiting is sometimes produced." The disease frequently continues many weeks, sometimes exists for months, and with others endures for years; in some instances, it produces so much distress of mind, so high a degree of bodily suffering, and so completely incapacitates the patient from the pursuit of business, that he seeks relief from an operation.

Sir Astley inclines to the belief that the disease is seated in the nerve; "it seems to me to be a species of tic douloureux, supported by the constant functional changes to which the part is liable; for, if it arose from organic change, it would not, as it does, cease for a considerable time, and then relapse.

*Treatment.*—Small doses of the oxymurias hydrargyri with the compound decoction of sarsaparilla, given twice a day, for a length of time; the application of a belladonna plaster to the part, and opening a blister at the groin, and dressing it with ungt. cetacei et opii; a sea voyage to a warm climate;—are useful. "It will be right to try arsenic, which has considerable power over tic douloureux;" also quinine, steel, &c.; but, at the same time, to deplete from the part by leeches, and lessen the nervous irritation by the application of a solution of nitrate of potash and muriate of ammonia, in a bladder. Bougies do not relieve it; "but the ung. lyttæ, used to produce a slight discharge from the beginning of the urethra, I have known of service."

Several highly interesting cases are detailed; we shall select one out of three, in which Sir Astley removed the testis on account of this affection. "Captain P. had an irritable state of the left testis, which commenced in March, 1818. The vein of the spermatic cord felt distended; the part was exquisitely tender to the touch, and exercise produced pain, which was intolerable if the part was not supported: he could not rest on the left side, or bear the slightest pressure on the testis; he had increased pain in coitu, and after it the part felt full and loaded. He was somewhat, but only for a time, relieved by the hot bath, or fomentations. He tried blistering at five different times: applied two hundred leeches, at separate times, to the affected part: employed also various lotions, opium, and belladonna, with every medicine which seemed likely to be useful in lessening the irritability; but all without benefit.

"I removed the testicle for him in 1823; he quickly recovered from the operation."

The lecture concludes with an account of the mode of performing the operation of castration.

Lect. XX. *Diseases of the Breast.* The diseases of this organ have been too much considered as being of a malignant nature: and females have been often very unnecessarily submitted to an operation, under the idea of the complaint being cancerous. It is a matter of great importance, therefore, to point the cases which really require removal, in distinction from those in which operations are entirely unnecessary.

*Hydatid or Encysted Tumour.* This disease is unattended with pain, and has more the character of chronic inflammation than scirrhus. The skin is undiscolored, and the general health is unaltered, even when the swelling becomes of the most formidable magnitude.

"As it increases, a change in the nature of the swelling is produced: at first it was uniformly solid, but is afterwards distinctly divided into a solid and a fluid part; the latter fluctuating, so as at once to inform the surgeon of the existence of a fluid. If this part be punctured, a liquid, having the usual character of serum, is discharged; the cyst sinks, but soon becomes again distended, and the swelling continues to grow. At length the tumour acquires enormous magnitude, and some of the largest swellings in this organ are of the hydatid kind."

The swellings are pendulous; the whole breast is very moveable; and the absorbent glands, in the most aggravated form of this complaint, are undiseased, so that it does not extend by absorption. The cysts vary in size: there are three kinds; first, the globular hydatid; a second species, "composed of numerous membranes, which may be peeled from each other like the concentric lamellæ of the crystalline humour." Third, a simple bag, which contains and secretes the serum within. Inflammation sometimes takes place in one of the cysts, and when it ulcerates, serum, mixed with mucus, and occasionally matter, is discharged. The wound then heals, but the disease again ulcerates in other parts, and passes through the same process. This complaint occurs at all ages after twenty, but more frequently in advanced age than in youth.

Several interesting cases of this disease, where it was successfully removed by an operation, are given. In one case, the tumour was of an enormous size, measured thirty-five inches in circumference, and weighed thirteen pounds. Another weighed nine pounds. In one case, where the tumour was cut into, a bladder of water was opened; the cyst in

which the water was contained appeared very vascular, and was removed; the wound soon healed.

*Diagnosis.* The marks of distinction in this disease are, "1st, the health remaining perfect; 2dly, the almost entire absence of pain, unless there is a suppurative tendency in the cysts, when I have known the disease painful; 3dly, the swelling being firm, smooth, and not tender to the touch; 4thly, when a fluid forms, the fluctuation being very distinct, and a slight blue tinge being observable when it approaches the skin; 5thly, the fluid, when evacuated, having the transparency of water, with a very slight yellow tinge, and this is sometimes succeeded by a discharge of mucus."

*Treatment.* When the tumour becomes of great magnitude, there is no other mode of relief but by removing it; the operation is attended with very little danger, and if the arteries have become large, the only care which is required is to secure them as they are divided. When *completely* removed by an operation, no remote danger exists of its return; but "the disease does not contaminate the absorbent vessels or their glands, but is to be considered as entirely local. When a single cyst exists, the swelling does not require removal." A young woman was sent into Guy's Hospital, with a tumour on her breast; she was ordered into the operating theatre to have it removed; "but, upon examining it with great attention, I felt a fluctuation, and turning to the students, I said, 'I shall put a lancet into this swelling to ascertain its contents,' which I immediately did, and serum only was discharged. I introduced a small piece of lint into the orifice, brought on an adhesive inflammation, the sides of the cyst adhered, and the patient did well, having no return of the complaint."

*On the Scirrhous Tubercle.* This disease is of very frequent occurrence. The swelling is generally discovered after it has acquired some magnitude. "It is said to be discovered by accident: but if the patient distinctly traces her feelings, she will have observed some uneasy sensation, which led her to feel the part. Sometimes the attention is first attracted to the bosom by a drop of bloody serum having stained the linen opposite the nipple, it having flowed from one of the lactiferous tubes. Sometimes a distinct and sharp pricking pain leads to the discovery of the swelling.

"It feels extremely hard. It is evidently seated in the gland of the breast. It is moveable, but more so with the breast than in itself. It is usually distinctly circumscribed, so that the surgeon thinks he is able to decide upon its limits,

yet it generally happens that portions of it branch out into the gland, and connect it with parts of the breast at a distance."

In some instances it is rather a scirrhous inflammation in the breast than a distinct tumour, which hardens and swells the bosom throughout its whole extent. The pain is excessively severe in this disease, commonly as a stab in the part, or a sense of tearing "as if the nerves of the breast were torn out, or the breast itself tearing off." It generally extends to the shoulder on the same side, and the nerves of the arm are often affected. The pain in the breast is intermittent, and recurs about once in ten days or a fortnight at first, but more frequently as the disease advances; the pain is more severe prior to menstruation, is relieved so soon as the evacuation begins, and is always much lessened after its cessation. The increase of the swelling is gradual, until it acquires a magnitude of two or three inches in diameter; "for it rarely happens that the true scirrhous tubercle increases to a very considerable bulk, and this circumstance is one of its criteria."

As the disease progresses there is a retraction of the nipple, from the lactiferous tubes being drawn out of their course by the swelling: the nipple also frequently becomes red, inflamed, excoriated, and sometimes ulcerated. The skin is puckered so as to resemble a cicatrix, and this arises from its adhesion to the surface of the tubercle; the absorbents become affected; the glands in the axilla enlarge, and, if the disease be on the sternal side of the nipple, the scirrhous irritation is extended by the absorbents, through the intercostal muscles, to the internal mammary absorbent vessels and glands. When the glands in the axilla are enlarged and obstructed, the irritation proceeds by the absorbents "from the axilla to the back of the shoulder, on the scapula, and extend from thence to the glands above and behind the clavicle."

The disease exists sometimes for years in its adhesive stage, without destroying life; frequently, however, it proceeds to a suppurative inflammation; then the skin assumes a livid hue; the pain becomes more severe; a slight sense of fluctuation is perceived in the part, which gradually ulcerates and discharges only a bloody serum; "for true pus is not generated. Pus is attempted to be produced; but it is not formed upon the truly malignant surfaces, but only upon the surrounding parts, if they be ulcerated. I have, however, sometimes seen an approach to suppuration.

"The surface of the sore feels hard, like the original tu-

mour, and is remarkably insensible to pressure: and you therefore will observe the patient wipe it and handle it with a degree of roughness and want of gentleness, which surprises those who are unaware of its little sensibility. The granulations which spring from the sore are imperfectly formed; in some parts rising considerably, in others scarcely any are produced: they differ from common healthy granulations in their hardness, in their insensibility, and in their secretion, which is generally a bloody-coloured serum."

The ulcer frequently bleeds spontaneously, also from removing the adhering dressings, or from wiping the surface of the sore; the flow of blood does not easily stop, as the vessels have little power of contraction; pressure, however, succeeds in checking the hæmorrhage. The edges of the sore become everted. ulceration proceeds gradually, and "often a deep excavation is produced, so as to expose and even ulcerate the pectoral muscle." At this period, and even before ulceration has commenced, the patient complains of rheumatic pains in different parts of the body, particularly in the loins and in the thighs: violent pain and tenderness is sometimes felt in the sternum and ribs, and the patient describes the pain to be that of animals gnawing the parts: great dyspnœa, a cough, unattended by expectoration, is often attendant upon this complaint, and the patient cannot lie down in bed, or can only rest upon the diseased side.

"Frequently violent spasms are felt, which are referred to the region of the stomach, and they are often attended with vomiting; but, I believe, they arise from a tuberculated state of the liver. The complexion is sallow, with now and then a slight flush upon the cheek.

"After some time the arm, upon the diseased side, begins to swell above the elbow, then the fore-arm enlarges; at length the swelling extends to the axilla. Its feel is brawny; it does not pit so easily as common œdema; the swelling seems to arise from the loss of absorption produced by the destruction of the texture of the absorbent glands, and from compression upon the veins of the axilla, from glandular enlargement. The constitution becomes excessively irritated by the swelling, by the pain which attends it, and by the augmented disease in the breast, and thus gradually the patient sinks under her sufferings."

*Dissection.* The tumour in the breast is solid, and approaches nearly to the firmness of cartilage, waved upon its surface, composed of fibrous matter within, and the lactiferous tubes may be seen in white lines, taking their course through it.

"Processes extend from the swelling into the surrounding parts of the breast, which must be carefully felt for in the living subject, if an operation be performed."

If the swelling adheres to the pectoral muscle, scirrhous matter is deposited in the direction of its fibres; "the glands in the axilla are changed in their internal appearance from the deposite of a scirrhous secretion resembling that in the breast, but more vascular and more quickly ulcerating, and then they become spongy. The glands above the clavicle are in the same state; and those on the left side, when enlarged, press upon the end of the thoracic duct, and disturb its functions, producing excessive pain for some time after taking food."

The *lung* on the diseased side, and some times on both sides, is inflamed, and partially adheres to the pleura costalis. Serum is deposited in the cavity of the pleura, and Sir Astley states, that from this he has known death produced in a few days after an operation of removing a scirrhous tubercle. The *liver* has frequently scirrhous tubercles on it, more especially when the disease is on the right side. The *uterus* is rarely free from disease, and this produces the pain in the loins, of which the patient so frequently complains. The *ovaria* are sometimes enlarged, hardened, and tuberculated. The *bones*, also, have frequently scirrhous deposites on the cancellated structure: the case of a lady is mentioned, whose thigh bone broke merely in her rising from bed, and another in which it broke by her turning in bed.

Sir Astley remarks, with respect to the age at which this disease appears, that he does not recollect more than two cases, in which the nature of the tumour was decidedly scirrhous, under thirty years, and that he has frequently seen it at all periods between thirty and seventy years; he states that he has removed one at seventy three, ulcerated, and the patient did well. It most frequently occurs about fifty years of age.

When the disease occurs in very old persons, it does not in general shorten life; it is supposed to occur more particularly at the cessation of menstruation, for it is frequently sympathetic with the uterus; the exceptions to this rule, however, are very frequent. The disease occurs more frequently in unmarried women, than in others, and in women who, being married, have had no children; yet pregnancy and nursing, do not prevent the tendency to the disease in some persons.

If a tumour exists in the breast previous to the cessation

of menstruation, a malignant action will occur in it at the period of its cessation, or soon after it. Sometimes several persons in the same family will be affected with this disease; therefore, in a family in which one is affected, "the first dawn of complaint should be carefully watched, and the general health be well attended to in others."

The progress of this disease to its termination is always slow: but in some more so than in others. Our author states that he has known it to remain stationary, in one instance, seventeen years; in another twenty-two years: and Dr. Babington knew a lady who had symptoms of the disease twenty-four years.

"The cause of this disease is supposed to be some accidental blow, or the pressure of a part of the dress; but although a blow may produce a swelling on the bosom, yet that swelling will not be of a scirrhous nature, unless some defective state of the constitution disposes to malignant action. If the constitution be good, the effects of a blow are speedily dissipated; but if the constitution be faulty, the swelling grows into a formidable disease. The complaint is, in part, constitutional, in part local. It is constitutional in so far as the disposition to malignant action is produced by the state of the habit. It is local also, because the action in the part is peculiar, and the result is a specific effusion different to that of common inflammation. A wound, therefore, made into the parts will produce, on scirrhous disease, a cancerous ulcer; but a wound made in removing the swelling heals like one in any other part of the body. So with respect to the constitution, unless it be changed by a medical treatment, the disease will return as the disposition to malignant action which continues will reproduce it."

Anxiety of mind, tending to the presence of slow fever and suppressed secretions, are, according to our author, the predisposing causes to the complaint.

The lecture concludes with a detail of several cases, and the appearances on dissection, of which we have already alluded.

Lect. XXI. *On the Treatment of Scirrhous Tubercle.* All that the surgeon can do is, to employ such constitutional treatment as is best calculated to check the disease, and lessen inflammatory action. Attention is required to the due support of the secretions, and the pil. hyd. subm. comp. from three to five grains at night, with compound infusion of gentian, soda, and rhubarb, form an excellent medicine, and are highly recommended for that purpose. Steel often occasions

a feverish heat, and therefore should not be employed in this form of disease, unless in cases where the uterine secretion is defective, and then the "Plummer's pill at night, and the following draught twice per diem may be beneficial:

R. Vini ferri ʒj.
Ammoniæ carbonat: gr. vij.
Aq: menth: virid: ℥j.
Tinct: card: comp: ʒss.
M. ft. Haustus bis die sumendus."

Anodynes should also be given to relieve the severity of suffering. "The tincture of opium, the liquor opii sedativus, the black drop, are given in succession, as either form is losing its effect, combined with the camphor mixture, and a little of the spiritus ætheris comp: which is the best mode of administering them. A patient of mine in Guy's Hospital was much relieved by the stramonium, and this medicine may be given in the following form:

R. Ext: stramonii gr. ½.
Camph: gr. 2.
M. ft. pilula bis terve die sumenda.

"Very small doses of belladonna sometimes succeed in diminishing the pain, and I have known bark also mitigate the severity of the symptoms."

When there is cough, attended with dyspnœa and pain in the side, six or eight ounces of blood should be taken from the arm; it is usually covered with a buffy coat.

As no specific has yet been discovered for this disease, Sir Astley enjoins that medical men, "instead of going over again and again trials of the same means, should endeavour to discover, amidst the numerous new medicinal articles with which chemistry has of late years furnished us, some remedy for this complaint."

Change of climate, according to our author, has no favourable effect. There is no greater mistake than the idea that vegetable diet is beneficial; low diet, or whatever weakens, leads to an increase of the disease, and its more rapid termination; it renders the person irritable, quickens the pulse, and "makes the constitution feel the disease more strongly;" Wine and fermented liquors, given so as to produce a quicker pulse, or feverish state of body, is equally pernicious. "In short, diet has no specific influence, and that which has agreed best with the patient at other times is the most appropriate under this disease. Meat once per diem, and weak wine and water, as a drink at dinner, agrees best."

The *local treatment* consists in subduing inflammatory action; by perspiration; by wearing oiled silk; soap cerate, or a poultice of bread and poppy water; "wearing a piece of fur upon the part, or a portion of hareskin, is found to tranquillize the disease." As the pain is occasionally severe, and the disease seems to grow by occasional determinations of blood, a few leeches should be applied, but many, or a frequent repetition of their application, is wrong.

The following formula is recommended when the pain is excessively severe.

R. Cerat. saponis ℥j.
Ext. belladonna ʒj.
Ol. lavendulæ gtt. v.
M.

If the tumour disposes to suppuration, fomentations and poultices should be applied. When ulceration takes place, "the bismuth ointment is a good application; as it also is to an appearance of erysipelatous on the surrounding skin. The unguentum zinci oxydi, under similar circumstances, may be of service. Chalk and opium I have seen applied with advantage.

When the sore is excessively painful, the following powder should be rubbed upon the parts twice in the day:

Pulv. cinchonæ ℥j.
—— opii ʒj.
Misce.

If the surface of the sore manifests a disposition to slough, it is right to use a carrot poultice, or the nitric acid lotion." When the arm swells, it is necessary to apply a roller from the hand to the axilla, and to keep the arm from the side in order to allow as much freedom as possible to circulation and absorption.

The manner of performing the operation is next described; the concluding observations of our author are valuable. "In those cases in which there is a general scirrhous inflammation of the breast, I never now perform the operation, because I never knew it succeed. In others, in which a number of tubercles form in the breast the whole mamma must be removed.

"So soon as the patient has recovered from the operation, a medical alterative treatment should be pursued, to change the constitution and prevent the disposition to a relapse into the former disease."

*Fungous* or *Medullary Tubercle.* This disease may be dis-

tinguished from scirrhus "by a less circumscribed and more diffused inflammation; by less hardness; by the formation of a cyst; by the extreme varicose state of the veins; by the fungus which sprouts from it after ulceration; by profuse bleedings; by extensive sloughing; by less pain; by a quicker progress to destruction; by the absence of retraction of the nipple; by the want of puckering of the skin; and by the glands being less affected in the course of absorption." The patient's health is at first unaffected; when ulceration begins, she becomes sallow, emaciated, and, from repeated loss of blood, has an extremely cadaverous appearance.

On dissection, the tumour, in its adhesive stage, appears lobulated like an adipose swelling, but the substance which is effused by the inflammation is more compact, and varies in colour; in some parts assuming the character of common adhesive matter, in others it is softer and mixed with the red particles of the blood. In its next stage, it forms a cyst, which contains the fluid described; and it is from the internal surface that the fungus proceeds; other cysts contain bloody serum, and a semifluid mass, like putrid brain, or some times like cream tinged with blood.

At its commencement, this disease adheres to tendinous structures more than to others; Sir Astley states that he has known "almost every internal organ affected by it, even the brain itself."

*Causes.*—Predisposing anxiety of mind, and such local circumstances as have a tendency to destroy the regular and natural functions of the body; it has also a local malignant action, "a part shall become diseased, whilst the surrounding parts still maintain their natural functions." Thus the disease is formed of constitutional disposition to the complaint, with a local specific action. In removing these tumours, the incision must be extended into the healthy, at a considerable distance from the diseased parts, "for if there be inflammation in the vicinity of the tumour, the malignant action will recur in it."

*Treatment.*—The first object will be to correct the general health by alteratives, viz. Pil. Hyd. subm. comp., and a bitter infusion with rhubarb and soda. Second, to destroy the local and specific action. Pressure has been used to produce a slough of the fungus. "Aluminous applications are useful in preventing the growth of the fungus, and the sulphate of iron has a good effect in the same point of view; but I know of nothing which has a specific action upon the sore.

"It is therefore necessary to remove this disease by opera-

tion; and, upon the whole, it less frequently returns than the scirrhous tubercle, if care be taken to extend the operation properly into the sound parts." As in scirrhous, an alterative treatment will be required, after the operation, to prevent the disposition to returning disease.

*Of the Simple Chronic Tumour of the Breast.* This disease is not of a malignant nature; it attacks the young and healthy, and usually appears from the age of puberty, seldom after the age of thirty years. The swelling is very superficial, growing rather upon the surface, than the interior of the breast: at first it feels like an enlargement of one of the mammary lobes, then as if the several were combined; it is not hard like scirrhus, nor is the health affected by it; it is extremely moveable, and generally unaccompanied with pain. It grows slowly and gradually, and very rarely acquires a great magnitude. Our author states that he has seen one case in which the disease became excessively large, and it ulcerated and destroyed life.

The cause of this disease is unknown. It is sometimes attributed, by the patient, to the pressure of some part of her dress.

*Treatment.* "I generally order the emplast. ammon. c. hydrargyro to be applied to the part, and give hydrarg. c. cretâ with soda and rhubarb, but the disease rarely disappears." If it increases in spite of an alterative treatment, and the patient is anxious, it should be removed by an operation.

*Adipose* swellings are sometimes formed in the breast. Sir Astley removed one from a patient, which weighed fourteen pounds and ten ounces: the gland of the breast was placed before it. The incision for its removal was thirty-two inches in circumference.

*Of the Irritable Tumour.* This disease generally occurs from the age of fifteen to thirty years.

*Diagnosis.* "A lobe of the breast is slightly swollen; it is extremely tender to the touch, and, if handled, the pain sometimes continues for several hours. The uneasiness is not seated in the swelling only, but extends to the shoulder and axilla, down the arm to the elbow, and frequently to the wrist and fingers. It is very much increased prior to menstruation, is somewhat relieved during the period, and decreases after its cessation. The pain is sometimes so severe as to destroy rest; and even the weight of the breast in bed is sometimes almost intolerably painful."

When the pain is most severe, the stomach sympathises, and vomiting is produced, the constitution is irritable—the

hair of the patient usually light; complexion delicate; temperament sanguineous—the disease sometimes continues for months, and even years, is not malignant, and not only "does not require an operation, but such a measure would be quite unjustifiable;" it is frequently attended with amenorrhœa, or fluor albus, and its cause is generally dependent upon a defect of uterine secretion.

"In the treatment, local irritability is to be diminished by the application of the belladonna in extract, or opium mixed with the ceratum cetacei; the extractum conii; or the recent conium in a poultice is beneficial. A plaster of soap cerate, to produce perspiration, or the application of hare skin, or some other fur, or the oiled silk applied with the same view, are found to be useful.

Leeches are sometimes employed when the pain is excessive, and the vessels of the breast are unusually full. If too frequently used they produce debility, and add to the irritability of the system.

The constitutional treatment consists in diminishing constitutional irritability, by restoring defective secretion, in giving tone to the system, and in acting particularly on the uterine secretion.

The usual medicines are small doses of calomel and opium combined with a mild aperient, but those which best agree are the mistura myrrhæ c ferro, or the ferrum ammoniatum; under the continued use of which the disease gradually disappears. Rhubarb and soda, or these combined with columba, I have also seen very useful.

Conium, combined with rhubarb, I have known beneficial."

Tumours composed in part of cartilage and in part of bone, sometimes form in the breast; if painful and inconvenient they should be removed.

The breasts sometimes grow large and pendulous about the age of twenty years; "the treatment consists in supporting the breasts in a suspensory bandage, in which each breast is received, and this is fixed over the shoulders.

The medicine best calculated to be useful is hyd. c. cretâ with rhubarb and soda."

The lecture concludes with a few observations on the milk abscess, which requires the same general treatment in all its stages, as recommended in simple inflammation.

As an appendix to his lectures on the diseases of the breast, Sir Astley Cooper sent to Mr. Tyrrell a paper on the development of the nipple, which, as highly interesting and valuable, we publish entire, together with the beautiful plates

accompanying it, and which we flatter ourselves will be very acceptable to our readers. We shall conclude the remaining part of this interesting volume, in our next number.

*On the Areolar, or Mammillary Tumour.*—At the age of seven years, and from that period until puberty, children are not unfrequently subject to the swelling behind the nipple, or mammilla of the breast. This swelling occupies a circle of an inch or more, involving the posterior part of the nipple.

The child, feeling uneasiness in the part, is led to examine it with attention, and then finds a swelling, which is generally tender to the touch, and is sometimes, though not commonly, acutely sensitive. The skin over it is undiscolored; it moves freely upon the pectoral muscle; but the nipple moves with it. I have seen it frequently, both in boys and girls; but I think more frequently in the male than in the female. It generally affects only one breast; but sometimes, though rarely, it exists in both. It does not appear to accompany a scrofulous disposition, but is found in irritable young persons. The age at which it has most frequently presented itself to my observation, has been from eight to twelve years.

Within this period, then, a surgeon will be sometimes called upon to remedy a hard circular sensitive tumour behind the nipple and areola. Its cause I shall presently proceed to explain, when existing at this period of life.

I have never seen it productive of any serious disease. Sometimes, however, it endures for several months, if attention be not paid to the means for its removal.

The best mode of treatment consists in the application of the emplastrum ammoniaci cum hydrargyro, and in giving small doses either of the hydrargyrus cum creta, with rhubarb, or of the oxymurias hydrargyri, with bark or sarsaparilla; under the influence of which remedies, it generally becomes gradually absorbed in the space of from two to three months. It sometimes yields to evaporating lotions.

The same part which is affected posterior to the nipple, in earlier periods of life, becomes the seat of more serious disease in after age. For the structure, which I am presently to describe, is liable, particularly in the male, to be affected with the two malignant diseases to which the body is subject, namely, to the scirrhous affection, or to the fungous.

*Of the Scirrhus of the Mammilla.*—This disease begins with a circular swelling at the root of the nipple. It is at first free from pain, but is excessively hard, and is somewhat irregular upon its surface. It gradually increases in size,

and during its growth a shooting, darting, and occasionally a lancinating pain strikes through the swelling, and to the shoulder, in the course of the mammary nerves.

A slight ulceration next supervenes upon the surface of the nipple, which is succeeded by a yellowish-brown incrustation. When the first incrustation is separated, it is succeeded by another, and a deeper ulceration ensues, by which process the nipple of the breast is gradually removed, and the scirrhous substance is exposed. Whilst the ulceration is proceeding in the centre, the scirrhus increases in circumference, until it occupies a considerable circle round the nipple, and as the bulk of the disease augments, the pain with which it is accompanied is likewise aggravated; yet the diseased part is only in a slight degree tender to the touch, and the patient is often seen to handle it in an unfeeling manner.

The discharge from it, which had previously formed an incrustation, now increases and becomes fluid, and the sore frequently bleeds.

The glands in the axilla become enlarged and hardened, after a long continuance of the complaint. The patient's lungs become diseased, and water is effused into the cavity of the chest. I have seen several males, and one or two females, die of this complaint; and I have given a view of the appearance which the swelling assumes on dissection.

As this disease is beyond the control of medicine, for none that I have ever known recommended, or seen employed, seems to have the least influence in preventing its destructive effect, its removal must necessarily be effected either by the knife or by the application of arsenic. The former mode is vastly preferable to the latter; it is, upon the whole, less painful in the execution, and it is of more certain efficacy in completely removing the disease. Arsenic, on the contrary, often but partially removes the complaint; and the irritation which it excites extends the disease to the neighbouring absorbent glands. The absorption of the mineral, also, sometimes produces serious effects upon the constitution. When the disease is clearly and completely removed by the knife, the edges of the wound are brought together, and they readily unite by adhesion.

If the disease has been neglected, if extensive ulceration has ensued, and the complaint has proceeded beyond the relief which is to be derived from surgical operation, the applications which I have seen most advantageous in tranquillizing the sore, and improving its appearance, have been chalk and opium, in proportion of an ounce of the former to a drachm

of the latter; oxyde of zinc and opium in the same proportions; or oxide of bismuth with opium. These means, however, only retard the progress of the disease, rendering the descent to the grave a little more easy and a little less rapid, but they do not prevent the fatal termination of the complaint.

*Of the Fungous Tumour of the Mammilla.*—Of the fungous tumour of this part I have seen three different instances, each of which existed in the male, and each was removed.

The tumours began behind the nipple, which adhered firmly to their surfaces. They were globular, and did not possess the hardness of true scirrhus, but felt at first more like simple chronic tumours, and grew less firm as they increased. They were but slightly tender when pressed, and entirely free from pain. They neither of them had ulcerated. After they had existed for several months they began to increase rapidly, and this circumstance excited alarm in the minds of the patients, so as to lead them to make application for surgical assistance. The medicines which I advised, and the applications which I proposed, appearing to have no influence in preventing the progress of the disease, I recommended extirpation. Two of the patients recovered without any returning disease; the third, after a few months, sunk under what was believed to be hepatic disorder.

I have given a plate of the appearance of one of these tumours; it is much more spongy than the true scirrhus. The vessels which it possesses are more numerous and their diameters larger, more especially of the veins. It not only adheres to the nipple, but it proceeds from its basis. The vessels which supply it are of considerable size, and require to be carefully secured to prevent after-hæmorrhage. In neither of the cases had it contracted adhesion to the pectoral muscle; and there was therefore no difficulty in detaching it from the surrounding parts.

*On the Seat of these Diseases.*—Having thus described the diseases which are placed at the basis of the nipple, I shall now proceed to point out the structure in which these complaints begin; and which the plates connected with the work will very clearly explain. A child born at the full period of gestation, whether it be male or female, is found to have, issuing from its nipple, a fluid of milky appearance, which, when alcohol is poured upon it, deposites a solid, which has the appearance of coagulated albumen. This fluid the nurses are in the habit of pressing out, as they pretend that it is liable to excite inflammation if suffered to remain. Whether this be the case or not, or whether the inflammation which some-

times ensues be the result of pressure and friction which the nurses employ. I am not able to state; but inflammation does sometimes ensue, and requires fomentation for its relief.

Thirty-two years ago I first learned there was such a discharge from the nipple; and was led to examine whence it proceeded; when upon making a section through the middle of the nipple towards the ribs, I found a circular glandular structure, larger than a large pea, and situated directly behind the nipple. It is of a red colour, from its extreme vascularity. It contains ducts which open at the nipple; and from these may be pressed, first a milky fluid, afterwards a sebaceous matter. The nipple over it is situated in a depression, and appears red and granular in many subjects. The artery which supplies the gland is derived from the axillary; and the branches derived from, and distributed to the gland, are numerous. Veins return the blood in the course of the arteries; and filaments of nerves from the axillary plexus are distributed to it.

All that is necessary to do, in order to observe this structure, is to make an incision through the centre of the nipple. In the fœtal state, between the seventh and the ninth month, this glandular substance is found, but of smaller size. At the end of the first year it is still large, and continues so during the second and the third year; and thenceforward it seems to lessen in both male and female until the seventh and eighth year. It is most conspicuous in fat subjects, as it is kept extended from the nipple by the adipose substance.

About the eighth year it begins to increase, but it varies as to time in different persons; and as it grows towards the age of puberty the nipple becomes evolved from it. In the female, at the age of puberty two tumescences will appear; the one a small sphere directly surrounding the nipple; which then rather sinks into this little swelling; and the other a large sphere, which is composed of the mammary gland, or gland of the breast. Thus there is a mammillary and a mammary growth; a mammillary producing the nipple, which is gradually envolved as the breast increases; a mammary which is composed of the lacteal gland, the lactiferous tubes of which proceed through the mammillary process. In the male the mammillary gland forms the nipple; but instead of tubes proceeding through it, ligamentous cords are seen radiating from the point of the nipple through the mammillary substance. These ligamentous cords terminate in a compact cellular texture at the basis of the nipple; and the cells thus produced

become loaded with adeps, so as to sustain and preserve the projection of the nipple.

If, then, a section be made of the nipple of the male in the adult subject through its centre, radiated ligamentous cords are found in its substance, and a strong network containing fat at its basis. In the plate this will be well seen in a section of the nipple of Coombs, lately executed for murder, whom I selected on account of his age, and becouse he was a healthy person. I made a section through the nipple, and then threw it into warm water to melt out the fat which it contained, and thus unloaded the strong network of cellular tissue at its basis.

The evolution of the nipple is as follows:

In both male and female infants a gland exists which is the nidus of the future nipple, over which the skin is puckered into a small projection. This glandular substance lies concealed under the skin until near the age of puberty, and then it gradually evolves, and becomes everted into the nipple of the adult. In the male, the tubes through which the milk of the infant passes become ligamentous cords in the nipple of the adult, and in the female the similar tubes become the lactiferous ducts of the nipple. Thus it is that the nidus of the adult nipple is protected until the age of puberty.

It is this structure, then, of the male and female nipple, prior to the age of puberty, at the time when evolution of the nipple is commencing,—which produces the swelling to which young people are subject, from the age of eight years to the period of puberty; for, when the action is greater than the evolution requires, a hard inflammatory swelling is produced.

It is in this structure that in future years the malignant areolar or mammillary tumour forms. Here the scirrhous tubercle commences, which destroys the nipple, and ultimately extinguishes the life of the patient. It is in this structure that the fungous swelling which the plate exhibits is formed, and both of these are from the male. The female is less subject to the disease, because the mammillary substance is principally absorbed, and lactiferous tubes are formed in its stead.

## EXPLANATION OF THE PLATES.

### PLATE I.

Fig. 1. A view of the nipple as it appears in the male fœtus.
Fig. 2. A section of the mammillary gland in the male child at birth.
Fig. 3. A posterior view of the mammillary gland in the male child at birth.
Fig. 4. A section of the mammillary gland of a male two years of age.

### PLATE II.

Fig. 5. Section of the mammillary gland of a female twelve years of age.
Fig. 6. Section of the mammillary gland of a female four years of age.
Fig. 7. Section of the mammillary gland of a female at birth, with the vessels which proceed from the axilla.
Fig. 8. Section of the mammillary gland of a male five years of age.
Fig. 9. Section of the mammillary structure of Coombs (lately executed at Maidstone.)
The ligamentous substance seen which remains after the cessation of the glandular structure. Clusters of cells in the cellular tissue, from which the fat has been separated by putting the section into warm water.

### PLATE III.

Three different views of a mammillary tumour, taken from a person of the name of Left, aged forty years, on May 29th, 1824.

It commenced sixteen years before this period, from a slight blow, but did not become larger than a pea during eight years. Four months before its removal it became occasionally painful, and increased considerably.

It was seated in the right breast, behind the nipple and areola.

From the kind of pain he described to exist in it, I advised its removal. Upon cutting into it after the operation, I found it to have more of the fungoid than the scirrhous character, and was glad that I had removed it, as it appeared to me to be of a malignant nature.

I did not see the patient afterwards.

Fig. 1. *a.* Integument. *b.* The nipple. *c.* The tumour.
Fig. 2. *a.* Integument. *b.* The tumour.
Fig. 3. *a.* The tumour cut open.

On the 17th November, 1824, I removed a tumour from the same situation for a hairdresser in the city. Its size was rather less than the former.

PLATE IV.

The disease represented in this plate begins in persons advanced in years, by a swelling behind the areola or nipple, and the latter becomes enlarged or drawn in.

When it ulcerates, the sore has a cancerous aspect; but it is rather more disposed to slough than the cancer of the female. The edge of the ulcer is ragged, the surrounding parts are hard, and the pain is of the lancinating kind, as in true cancer. The best case in illustration is to be found in the Medical Journal, published by Mr. Elliott, now a chemist in Fenchurch Street.

The disease extends to the absorbent glands in the axilla.

Fig. 4. An anterior view of the nipple of the male, in which the mammillary substance is affected with cancer; the nipple is enlarged, and the surrounding parts ulcerated. I removed it from a man between sixty and seventy years of age.

Fig. 5. An internal view of the same disease, a section having been made through it to show the scirrhous deposite. It has very much the character of cancer in the female breast. *a.* The surrounding adeps. *b.* The scirrhous deposite.

(*To be continued.*)

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ART. XI. *Illustrations of Acoustic Surgery.* By THOMAS BUCHANAN, M. D., Licentiate of the University of Glasgow, &c. &c. Surgeon to the Hull Dispensary for the Eye and Ear, and Author of the Guide to Acoustic Surgery. London, 1825. (*Pages* 118, *octavo, with plates.*)

IT is with no inconsiderable degree of pleasure that we hail the appearance of new works on this subject, which, we fear, is too much neglected by the medical practitioner. The one

before us does not aspire to the rank of a complete treatise; it is, in fact, what it purports to be, a series of illustrations, furnished with the design of bringing before the profession some of the author's improvements in this branch of surgery. As Dr. B., in his introduction, merely remarks upon and adverts to some of the most prominent features of the subsequent chapters, we shall pass it over and enter at once upon the consideration of "The mode of inspecting the meatus, with a description of the inspector auris," (Chap. I.) an instrument of the author's own invention.

After urging the importance of inspecting the meatus with care, in order to attain an accurate knowledge of the nature and state of the disease, whatever it may be, our author proceeds to describe the proper method, which we deem it unnecessary to recapitulate. He, however, states, that he "has known several surgeons in extensive practice, who have confessed that they had never been able to see the membrana tympani in the living subject; and yet these gentlemen, at the same time, had under their care patients affected with diseases of the auditory organs!!" Owing to the difficulty of inspecting the meatus in cloudy weather and at night, our author was induced to construct an instrument which would facilitate this operation; to this instrument he has given the name of "Inspector Auris." of which he furnishes a plate and description; the latter we shall subjoin. It is composed of the following parts. "1st. A globular lantern made of block tin, with a large door on one side. 2d. An iron tube. The inside polished and firmly secured to the lantern. 3d. A tube of the same description but shorter, and made to screw on the end of the first. 4th. A double convex lens, of about three inches focus and three inches diameter (to occupy the first tube near its juncture with the globe). 5th. A concave mirror (to occupy the opposite part of the globe to where the lens is placed) in order to collect the rays of light (emitted from the candle placed in the centre of the globe) and transmit them to the lens. 6th. Another double convex lens of less diameter than the first, placed at the junction of the tubes with each other, so as to concentrate the rays at the distance of seven or eight inches from its outer surface. A candlestick is situated so as to elevate the wax candle employed to the centre of the globe, the head of the lantern has small oblique holes to let out the smoke, and below there are similar ones to admit air; the rays that would otherwise escape by these holes are thrown back by circular pieces of tin. The whole instrument is supported on a standard made of iron, the per-

pendicular part of which is about twelve inches in height, in the centre of it there is a female screw to receive a male screw, cut on a rod, the superior extremity of which is formed into a ring, so as to receive the tube and support the instrument in a horizontal position; the base of the standard is circular and about one foot diameter, so that it may afford a solid support to the whole apparatus. The male screw is about ten inches in length, and is designed to raise and lower the instrument so as to adapt it to the different heights of individuals."

By means of the inspector, the ear may, at any time, be examined fully; excluding the light of the sun by closing the window-shutters. The dazzling effect, and consequent indistinctness of vision, arising from an attempt to examine the membrana tympani in a meridian sun, is by means of this instrument avoided, the rays emitted by it are at once soft and clear, and the intensity of them may be regulated by approximating to, or removing the instrument from, the head of the patient.*

The author suggests the application of this instrument to the examination of other deep seated parts: such as the fauces in scarlatina, the nostrils, after extirpating polypi, in deep sinuses and large tumours that have been opened, the vagina and os tincæ when diseased, &c.

We next proceed to the second chapter, "On Sounding the Membrana Tympani, with a Description of the Auricular Probes." The body of this instrument "should be about three inches in length, made of the best tempered silver, about $\frac{1}{70}$ of an inch in thickness, to increase gradually towards the handle, and to have a round nob on the extremity, about $\frac{1}{20}$ of an inch in diameter. The handle ought to be about four inches in length and two lines in diameter, to be made of a thin plate of silver, beaten from, but connected with, the body of the probe; to be hollow and of an octagonal shape, and to have two oblong apertures of one line in length and $\frac{1}{4}$ of a line in breadth, the one situated about an inch from the end, and the other about half an inch from the body of the probe." From the one aperture to the other, the handle is made rough and crossed, so as to resemble that of a common sound.

An aurist should have them made both straight and curved.

Before sounding the membrana tympani, the meatus should be washed out with tepid water, and afterwards inspected; the tepid water allays the irritability of the membrane, and

* We cannot refrain from expressing our belief that a concave mirror, held before the ear while the light of the sun is thrown into the meatus, will, by magnifying that tube, answer a valuable end in inspecting the ear. M.

removes foreign substances which might obstruct the operation.

The instruments are to be put into ol. amygdal. which has been previously heated to the temperature of the blood; then place the patient in the same position as that described for inspecting the meatus, and, with the straight probe held in the right hand in the manner of a writing pen, cautiously endeavour to ascertain if there is any aperture in the membrana tympani: if the interior part of the tube is suspected to be laid bare, the curved probe should be employed.

Our author does not, however, recommend this mode of investigation, except in those cases where the curvature of the tube is so great as to render the membrane partially obscure on inspection. He remarks: "If the patient be unable to inflate the membrana tympani—a considerable quantity of matter be discharged daily from the meatus—and the tube be of great curvature—the surgeon ought then to ascertain the source and extent of the disease by means of the auricular probes."

The patient's head ought to be well secured during the operation, to prevent the unpleasant consequences of a sudden start.

On syringing the meatus, (Chap. III.) the author observes, that the principles on which this process ought to be performed are less attended to than those of a more complicated nature. He proceeds to describe the best form of an auricular syringe; it should be made of ivory or bone,* the barrel four inches in length and ¾ of an inch thick, the point about two inches long and ⅛ of a line in diameter at the extremity, and be capable of containing about ℥ij. of injection.

The best mode of using the syringe is next pointed out, we shall give it in the author's own words:

"The syringe ought to be held in the left hand between the index finger and thumb, placed near the middle of the point, grasping the upper part of the point and also part of the instrument, and supported in this position by the middle finger along the barrel, while the other two fingers lie close to the palm of the hand, thus affording a rest to the body of the syringe.

"When the meatus is to be syringed, an assistant ought to secure the head of the patient with one hand, by supporting the chin, and keeping the side of the head nearly horizontal;

* Subsequent experience convinced Mr. Buchanan that silver is the best material for an auricular syringe, as bone is acted upon by the pyroligneus acid, and silver is not in the least affected.

and, with the other, elongate the cartilaginous part of the tube, by pulling the auricle upwards, and a little backwards.

"The operator, with the syringe filled and held in the manner described, should then place the back of his left hand on the angle of the lower maxillary; and by this means the instrument will be kept steady.

"He should then enter the point of the syringe into the meatus, nearly half an inch, and press it rather against the superior edge of the tube, so that it may occupy as little as possible of the diameter of the meatus.

"The piston should then be pushed inwards, and the injection thrown to the extremity of the tube with such force as the surgeon may judge necessary.

"If the injection be supposed to contain medical qualities of a stimulant or sedative nature, it ought to be retained in the meatus from one to three, or even five minutes.

"This is easily effected by the operator withdrawing the syringe quickly, (after the injection has been delivered,) and then placing the thumb of the left hand forcibly on the tragus, so as to block up the meatus and exclude the external air."

The advantage arising from the above mode of holding the syringe, is, that the danger of wounding the membrana tympani with the point of the syringe, in case the patient should start, is avoided, because, when the index finger and thumb are kept in the position described, they prevent the further introduction of the point of the syringe into the meatus.

If indurated wax or foreign substances are to be extracted, the injection must be thrown in with considerable force; and, when it arrives at the membrana tympani, the counter current formed there being nearly as strong as the direct one, it will readily force out all loosened extraneous matters, which will not meet with any obstruction from the point of the syringe, owing to its small size. In this way, beads, peas, &c. may be extracted with little pain or danger; those extraneous substances, however, that have become impacted, will require the use of the forceps, &c.

Here our author expresses his disapprobation of a syringe invented by an eminent London surgeon, the point of which is so large as to plug up the meatus, and, by preventing the escape of the fluid injected, endanger the rupture of the membrana tympani. He also dissents, we think with justice, from the too indiscriminate practice of syringing the ears in all cases of deafness or diminished hearing, in order, as it is asserted, to restore the sensibility of the parts, and increase the acuteness of hearing. "The contrary is most frequently

the result of this mode of practice; for, of a hundred patients who may have been in the habit of having the meatus syringed with tepid water for diminished hearing, scarcely one will be found to have gained permanent relief by this mode of practice."

The only utility that arises from syringing, is, to allay irritation, clear the tube of extraneous substances, indurated wax and suppurative matter, and, by that means, promote the inspection of the parts, or to apply medicated injections to the abraded, ulcerated, or callous surface of the tube.

These general remarks and instructions concluded, we come to the treatment of some particular affections of the ear, with the improvements introduced by the author into the treatment of them. And, first, of wounds of the auricle; (Chap. IV.) there is nothing that we notice under this head as being new or peculiar, excepting the employment of a pad in dressing them. When the wounds are extensive, it is necessary first to apply sutures and adhesive plasters, and then to place a pad behind the ear, constructed so as to fit the inequalities of that space which intervenes between the head and back of the auricle, so that the ear may be retained in a natural position.

The pad may be made of wool or cotton, and should be of a semilunar shape. It should also be sewed and quilted so as to make it capable of retaining the form necessary to support the parts. It may also, be conveniently made of cork, which is light and easily procured, and would retain the original form more permanently than the preceding, and would tend to preserve the natural appearance of the auricle, which is essential to a complete cure.

The best mode of fitting it accurately, is to take a model of the space between the auricle and cranium, and cut the cork pad so as to resemble it as nearly as possible, but to be somewhat thinner than the cast; after it is properly shaped, brush it over with a thin coat of glue, and roll it immediately in fine cotton or wool, when dry pluck off the loose cotton, and if it be still too large, reduce it by means of scissors. To retain it in its proper position, a bandage should be passed horizontally round the head one inch above the auricle, which may be prevented from slipping down, by passing the end of it over the head, and attaching it to the opposite side. The pad should have a small piece of tape attached by its middle to the upper extremity, and the ends of this tape should be sewed to the horizontal bandage about one inch and a half asunder so as to resemble the letter V. To the lower extre-

mity of the pad, a piece of broad tape or ribbon should likewise be sewed, so as to pass under the chin and fasten to the horizontal bandage on the opposite side. Lastly, another piece of tape attached to the posterior inferior part of the pad, to be passed under the occipital protuberance, and fasten on the other side to the tape that passes under the chin.

In this manner the pad will be held in its place. The auricle may be retained in contact with it by another bandage carefully applied over the adhesive strips; the same plan of dressing may be pursued if the auricle is in part or wholly severed from the head.

The patient should be confined to his room during the cure, and keep the bowels freely open with the mixture—formula No. 1,

R. Sulph. magnesia. ℥iss.
Quassiæ lignum. ℈i.
Aq. Bullient. f. ℥vi.
Post horam colat. ft. Mistura,
Cujus capiat cochl. ij. quartis horis.

On the second or third day after the accident the sutures should be extracted, in order to prevent ulceration of the punctures and preserve the symmetry of the parts.

If the auricle has been removed for a number of years the case then admits of *no cure*, except "the probability of adhesion between an auricle newly cut, from a living person, and the meatus of the patient, after the edges of the orifice of the tube have been rendered raw by the knife." As this, however, would be an unjustifiable proceeding, this proposition should be rejected. But in order to supply the deficiency and preserve the symmetry of appearance, artificial ears may be substituted; those made of silver are the best, and they may be held "in situ" by means of springs concealed under the hair, or by means of a wig so constructed with fine springs as to secure the auricle to the orifice of the meatus.

"On the mode of extracting extraneous substances and indurated wax from the meatus," (Chap. V.) our author makes several useful observations. Children have sometimes a propensity to stuff beads, peas, pebbles, and whatever they deem most valuable, into the ear; this is in imitation, as they observe of adults putting cotton, &c., into that organ. Those who have the care of children should avoid this practice in their presence.

When the bead or globular body is small, the syringe may be employed to throw in a tepid injection. For this purpose the point of the syringe ought to be pressed gently against

the edge of the meatus, so as to occupy as little of the diameter of the tube as possible; the counter current formed when the fluid arrives at the membrana tympani, will force out the extraneous substance. If it be rather large, it may possibly remain at the entrance of the meatus, whence it should be extracted by means of a pair of forceps. If it slip from the forceps, the injection must be again resorted to; the head of the patient should always be firmly secured by an assitant, and the hands ought also to be held.

If the points of the forceps were bent a little inwards, it would prevent the bead or irregular body from eluding the grasp of the instrument. Our author has always succeeded best by means of tepid injections *alone* in the extraction of foreign bodies, sometimes after other surgeons had failed. In one instance, which he relates, where a surgeon attempted to extract a bead by means of the probe and forceps, after causing the tube to bleed copiously, he was obliged to abandon it. The author being called, "extracted the bead very easily by means of tepid injections alone, and without any pain to the patient, who was perfectly quiet during the operation."

If the extraneous substance be a plug of wood, a dissecting forceps will be found of considerable service in extracting it when near the concha; but if the plug be farther in the meatus, then a pair of slender forceps (of which he gives a figure, and terms them auricular forceps) will be found to answer best.

When worms, insects, and vermin, are lodged in the meatus, we must resort to an injection of the infusion of tobacco, made according to formula No. 3.

℞. Nicotian. Tabac. ℈i.
Aloe. spic. ext. gr. x.
Aq. Bullient. f. ℥x.
Post horam colat ft. injectio.

This will destroy them, and allay the irritation which they occasion. The meatus should be afterwards washed out, and a few drops of ol. amygd. poured into it, to prevent taking cold from the warm injection.

When the meatus is filled with wax, the following symptoms are present: diminution of hearing, sometimes deafness; noises of various kinds in the affected ear, particularly when masticating; after expanding the jaws in yawning, the patient sometimes hears a sudden noise or "crack" in the ear: on inspection, a mass of wax will be seen obscuring the membrana tympani, and blocking up the tube, except at the superior

part, where a horizontal gap is generally left; through this aperture the undulations of sound reach the membrane, supporting an imperfect degree of hearing. The habit of stopping the ears with cotton or wool is often productive of this complaint, by affording a nucleus to the cerumen. The practice of using a probe or needle to extract wax is reprehensible, as it endangers wounding the membrana tympani.

The following is the best and most expeditious mode.

"The ear complained of should be inspected, and if it appears to be partially filled with wax, a syringe-full of tepid water, about the temperature of 90° Fahrenheit, should be thrown into the meatus, and the thumb clapped on the mouth of the tube immediately after the point of the syringe is withdrawn." The injection should be retained three or four minutes; then work the auricle backward and forwards, sometimes elongating it, thus loosing the wax from the sides of the meatus.

Another syringe-full being now injected with more force than the first, will usually return tinged with wax, and floats out small, tough, and hard bits of that substance; in this way the whole of it may be removed by repeated injections. Sometimes the solid mass of wax is so reduced as to leave its original position, and occupies the middle of the tube, bidding defiance to tepid ablutions; in this case the forceps must be had recourse to; this is explained on the principle that the meatus is larger within than near the concha, so that the plug of wax lodges, and resists the counter current of the injection.

By long and continued irritation from the hardened cerumen, the parts may become inflamed, and if not combated properly absorption and ulceration are the frequent results.

Our author recommends further to aid in extracting the indurated wax, when removed from its original position, an instrument which he terms an extractor. "The blade is made of a thin plate of silver, somewhat shaped like a writing pen, but not so taper at the point. The handle is about four inches in length, and of an octagonal figure, made of ebony, or mahogany stained black."

The manner of using it will readily suggest itself to the practitioner. The meatus should be washed out subsequently with tepid water, and the ol. amygdal. poured into the meatus as above.

If the meatus is found to be in a state of ulceration or inflammation, the author recommends the injection, formula No. 2.

R. Acid Pyrolog. ℥ij.
Aq. Distil. f. ℥vj.
M. ft. injectio bis in die applicanda,

to be thrown into the meatus morning and evening, until the parts are healed, and the bowels at the same time should be kept open by means of saline purgatives.

This species of deafness, or diminution of hearing, arising from indurated wax, is the most frequent, and easiest of cure.

Before concluding this subject, we shall give the substance of a remark made in a note, that infants are sometimes rendered deaf by viscid wax accumulating in the meatus; if this is allowed to remain it prevents them from hearing, and of course from learning to speak. The meatus should be inspected shortly after birth, and if this state of things exists, it must be removed by tepid injections.

We now enter upon the consideration of "diminution of hearing arising from imperfect secretion of wax." (Chap. VI.) Where the hearing is impaired arising from this cause, the patients complain of noises; of a dry rustling sound resembling that of blown-up bladders rubbing against each other, especially during mastication; sometimes ringing noises in the head; no acute pain, but often a dull sensation in the organ, and at times a total remission of the above symptoms.

"Patients of this description are usually of a cold, thin, costive, and often bilious habit," liable to affections of the glandular system on exposure to slight changes of the atmosphere.

Preparatory to commencing the treatment, it will be proper for the practitioner to endeavour to ascertain the primary cause of the complaint, whether local or general, as this disease is often symptomatic of other constitutional affections.

In the author's "Synoptical Table of the Diseases of the Human Ear," which is appended to the volume, and of which we shall have occasion to speak hereafter, this complaint forms the genus imperfectum, of which he gives three species, viz.

1st. When the wax is deficient in *quantity*.

2d. When the wax is deficient in *quality*.

3d. When the wax is deficient in both quantity and quality.

Patients affected with the first species "usually hear tolerably well in clear fine weather, and when the general health is good, but are apt to be affected with the least irregularity of the atmosphere, which, when dull, moist, or cloudy, causes considerable diminution of hearing." As a change of wea-

ther restores the acuteness of hearing, patients are apt to neglect themselves for years, until the disease is confirmed.

In the second species the secretion is more plentiful, but so altered in colour and quality as to form two varieties.

1st. "Of a whitish colour and thin, similar to a solution of gum acacia."

2d. "When only a few of the glands secrete cerumen, so that we often find small patches of insulated wax distributed in the interior of the tube, of a rather darker colour than the healthy secretion."

This variety has a peculiar tendency to harden, and forms distinct lumps, when the secretory part of the glands is active.

In the third species the tube is found clean and dry, and the membrana tympani clear and shining.

The meatus is also liable to be affected with scurvy, the cuticle becoming so dry as to be easily detached in small pieces, similar to fish scales; the integuments are sometimes of a reddish-blue colour, and swollen.

The tube of the meatus, in some subjects, is so thickly studded with strong hairs as almost to choke up the passage, the cuticle being generally dry and scaly. This species is often connected with conformata or nervous debility of the organ, and if injudiciously treated, frequently terminates in that complaint.

The seat of these three species of disorders being in the ceruminous glads, the general indication of cure is to restore their healthy action.

The first species admits of the easiest cure; to increase the action of the glands, and of course the quantity of the cerumen, warm stimulant applications will be most serviceable. "Two drops of formula No. 4,

R. Acid. pyrolig.
Spts. æth. sulph.
Ol. terebinth. rect. āā. M. ft.

ought to be applied to the interior parts of the tube every night at bedtime, and a tablespoon-ful of the mixture, formula No. 5,

R. Tinct. colchi. ℥iij.
Aq. distillat. f. ℥vj.
M. ft. Mistura, de quo sumat cochl. ij. magna quartis horis.

should be taken at the same time."

The bowels should be carefully watched, and if the patient

is costive, the pilulæ rhei c. should be taken in suitable quantity to obviate it, and to resist the digestive powers.

"In the second species, the quality of the secretion must be altered, and often the quantity augmented likewise; for we find, that when the secretion is diseased, the quantity is frequently deficient." The practitioner should extract the insulated wax, and endeavour to excite healthy action in the glands of the tube; for though the patient feels considerable relief on removing the deranged secretion, yet in proportion as it is reproduced hearing diminishes.

"The third species sometimes arises from bathing with the meatus exposed to the influence of cold water, either salt or fresh, but more frequently the former."

This our author attributes less to the water *alone*, as reported, but to the patient being in a state of perspiration at the time he plunged into the sea, and observes, that he has sometimes traced this species in females to a sudden check given to menstruation, which usually rendered the hearing very imperfect.

Care should be taken, in treating the second and third species, that the chylopoietic viscera be in a healthy and active state; and for this purpose the mixture, formula No. 10,

R. Quassiæ lig. ℈j.
Aq. bullient. f. ℥vj. post horam.
Colat et adde,
Pulv. rhei. ʒiss.
Mag. ʒij.
Sac. puriss. ℥ss.
Ess. menth. pip. ♏ xx.
M. ft. Mistura, cujus sumat cochl. ij. terquaterve in die.

should be taken regularly once or twice a day.

"The patient must be kept in dry airy lodgings, free from marsh effluvia or exposure to sudden changes of temperature."

When the bowels are regular, and the atmosphere dry and clear, the hearing is more acute than when it is moist, especially after taking exercise in the open air; for this reason, walking and riding, so as to cause a gentle perspiration, will be found very beneficial.

"The warm bath ought to be used at bedtime once or twice a week, with the powder, formula No. 7,

R. Pulv. ipecac. c. ℈j.
Hydrarg. submur. gr. ij.
M. ft. Pulvis, omnia nocte sumenda.

to be taken immediately after getting into bed."

The patient should be extremely careful to avoid any sudden exposures to, or changes of the atmosphere.

"The injection (form. No. 2) should be used every second or third day, in order to stimulate the action of the ceruminous glands."

Our author mentions, that in several instances the third species was produced by sudden exposure to cold, moist weather, while the patient was under the influence of mercury for the cure of syphilis, and that it resisted every mode of cure, until the system was brought again under the influence of that agent.

The injection ought to be made every time it is applied, and in order to stimulate the parts "the point of the syringe should be held at the distance of five or six inches from the auricle, and forcibly injected, so as to create an effervescence, which, if confined to the tube, will produce more beneficial effects than ten times the quantity of fluid poured into the meatus." Upon what ground our author founds this assertion, we are unable to discover.

Fumigations are also recommended, three times a week, just before the patient goes to bed; such as the mixture formula No. 6,

R. Pyrolig. acid. and
Aq. distil. āa. M.

The ear to be afterwards stopped with a little cotton, (we think wool preferable,) and the patient to wear a woollen nightcap.

The feet to be bathed, and a pint of wine whey drunk in bed, where the patient should lie next morning longer than usual.

This mode of treatment should be persisted in for some time, but not carried so far as to debilitate. The diet ought to be light and nourishing, with a glass of port wine or spirits after dinner.

Blisters of a semilunar shape, applied behind the auricle, have been of service. The formula No. 12,

R. Ol. sabinæ. ℥ss.
Ant. tartariz. ℈j.
Ung. sperm. ℥iij. M. ft. Unguentum.

might be used alternately with them.

The mind should be kept at ease; and, among other amusements, dancing is preferable, as it strengthens the system, and promotes the secretions, taking care, however, to avoid the effects of sudden exposures after that exercise.

Chapter VII, on the subject of "Polypi in the Meatus," we perceive little to attract attention. Mr. Buchanan recommends their extraction by means of a slender pair of curved forceps, of which he presents us with a figure. He afterwards touches the parts with an escharotic or stimulant application. He further observes, that owing to the vascularity of the tumour, he has seen a patient lose nearly five ounces of blood from the ear, after the operation, which, instead of debilitating the system, gave ease, relieved a painful affection of the head, and accelerated the cure.

The use of formula No. 2, every day, is also recommended, and if signs of reproduction appear, the ung. hyd. nitrat. or tinct. ferri. muriat. should be applied by means of a camel-hair pencil.

These last means alone will sometimes cure recent polypi without an operation; the mixture No. 1, being taken regularly three times a day during the cure.

There is only one complaint with which polypi may be confounded, and that is tumefaction of the ceruminous glands; if, however, a probe passes freely around the tumour, it is a polypus; if it pass on one side, or in the centre, and the enlargement be dry, it is a tumefied gland.

We shall now enter upon the consideration of the eighth and last chapter, "On the Treatment of Purulent Discharge from the Meatus." After noticing the baneful effects of introducing improper remedies, as aq. ammo. brandy, &c. into the ear for the relief of earache, our author adverts to the frequent occurrence of inflammation of the meatus in children at the time of teething, which he attributes to irritation, particularly that which arises from exposure to the atmosphere.

He divides inflammation of the meatus into three species. "1st. Inflammatio auditu permanenti, pain without diminution of hearing. 2d. Inflammatio diminuto, pain with diminution of hearing. 3d. Inflammatio suppurata, pain with diminution of hearing, accompanied with discharge." Of these he enumerates the symptoms, which we shall not detail, but proceed to the causes and treatment.

*Causes.* Irritation of any kind applied to the meatus; accidents from extraneous bodies, or their forcible extraction; exposure to cold, especially if the patient be of a delicate or scrofulous habit, will all, or either of them, excite inflammation. Sometimes the disease arises from an herpetic affection of the tube, which might have been easily cured in its incipient state by astringent injection, but if neglected, proceeds to ulceration and suppuration.

*Treatment.* In the first species we must resort to the ordinary antiphlogistic means, venesection, leeches, purgatives, together with the pediluvium and the powder, formula No. 7, to be taken at night.

In the second species the ceruminous glands are often found so much enlarged as to exclude the pulsations of sound from the membrana tympani; this affection resembles polypi, but may be distinguished as before pointed out.

This enlargement is to be overcome by means of pledgets or tents introduced into the meatus; it should be removed every morning for five or six, and even ten days, or until the meatus attains its natural diameter. Sections of elastic catheter may be used with great advantage, as by means of the opening sound will have ready access to the membrana tympani.

Injections of tepid water, or infusion of poppies, used three or four times a day, will tend to alleviate pain. A seton also, to the back of the neck, will assist powerfully in removing inflammation from the meatus.

"In the treatment of inflammatio suppurata, we must endeavour to heal the discharge as soon as possible," in order that surrounding parts may not suffer.

In recent cases, the meatus should be washed out with injections of tepid milk and water, four or five times a day, and mixture formula No. 1, taken at the same time. Confinement during this practice is indispensable, for obvious reasons.

If the patient cannot be confined to the house, the tepid injections must be discontinued, and formulæ No. 13,

R. Argenti. nit. gr. i.
Aq. distil. f. ℥x. M. ft. Injectio.

No. 14,

R. Zinci. sulph. gr. iv.
Aq. rosar. f. ℥vj.

Or No. 15,

R. Zinci. sulph. gr. iij.
Plumb. acetat. gr. vj.
Aq. dist. f. ℥vj.

applied three times a day, and formula No. 1, taken regularly to keep the bowels open, and the antiphlogistic regimen observed.

When there is considerable diminution of hearing, as well as purulent discharge, formula No. 9,

R. Hydrarg. submur. gr. xij.
Ant. tart. gr. i.
Opii. gr. iij.
Panis. ʒj.
Syrup cort. aurant. q. s.
M. ft. pill. xij. quarum sumat æger ij. omni nocte hora decubitus.

until the system is partially affected.

Owing to occasional failures, &c. from the above mode of treatment, our author was induced (from what data he does not inform us) to try the effects of iodine. He gives the preference to the mixture formula No. 8,

R. Tinct. iodin. f. ʒj.
Mucil. acaciæ. ℥ij.
Aq. distil. f. ℥vj.
M. ft. Mistura, cujus capiat cochl. ij. quartis horis.

He makes the tincture of the following strength:

R. Iodin. gr. xx.
Spt. recti. ℥j. E. ft. Tinctura.

He remarks, that "to scrofulous patients affected with diminution of hearing after healing the ulcerations in the meatus, or during their cure, the iodine mixture promises to be a most valuable acquisition to the present list of extemporaneous prescriptions." He has frequently found it to succeed after repeated trials of calomel had failed. Of the efficacy of calomel in scrofulous cases we entertain strong doubts, and hope that the author's opinion of iodine may be confirmed by subsequent experience.

In consequence of most persons desiring *immediate relief*, our author had still another desideratum to obtain, namely, a medicine that should cure the discharge in a moderate space of time, and restore hearing *instantaneously*. After repeated experiments, he discovered these desirable properties to reside in the pyroligneus acid; of this he uses a weak mixture, in the form of injection, and states that in repeated trials he has found it to succeed in restoring the hearing, in every case accompanied with purulent discharge. He then subjoins several cases from which we have selected the following:

"Case. G. E. Esq., ætat 56 years, applied to me for relief. He had great diminution of hearing in the right ear, attended with purulent discharge from the meatus of both ears, and had been deaf of the left upwards of 42 years.

"He could not hear with the right ear unless when using

an ear trumpet, and even then the person speaking had to bawl aloud in order to be heard.

"After inspecting the parts, I applied the injection, [Formula, No. 2.] to the right meatus, in the manner described in page 56, (of the illustrations,) and, immediately afterwards, he heard me when I spoke to him in a low soft tone of voice.

"On the third application of the injection to the left ear, he heard the beating of a watch with it, which he had not done before for the space of 41 years," &c.

He relates several other cases illustrative of its beneficial effects, in all of which a restoration of hearing, diminution of the discharge, and an extinction of the fœtor were the results.

Together with this injection, he employed purgatives, and occasionally the iodine.

The immediate effects produced by the injection, are, giddiness, succeeded in a few minutes by an agreeable warmth, a sensation of lightness in the head, and a sudden restoration of hearing, generally takes place. Sometimes it causes blood to flow from the extremities of the small arteries, distributed to the ulcerated integuments. If the injection render the meatus irritable, the following formula may be used, [Formula 11.]

R. Plumbi. Acetas. gr. x.
Acid. Pyrolig. ♏ xx.
Aq. Distill. f. ℥vi. M.
ft. Injectio.

While applying astringent or stimulant injections to the meatus, the bowels should be kept open and the digestive organs gently stimulated, for this purpose, our author recommends highly the formulas Nos. 1 and 10. They are particularly serviceable in scrofulous patients, which he computes to constitute $\frac{8}{10}$ of the whole number of those affected with purulent discharge.

With regard to the efficacy of this mode of treatment, we have to observe, that we think it wants further confirmation but is worthy of a trial, and, therefore, deserving of the attention of practitioners. We have used it in one instance of purulent discharge, that came under our notice, with very satisfactory results.

In the concluding part of his illustrations, Mr. Buchanan presents us with a "Nomenclature of the Diseases of the Ear," which we deem the least valuable part of his production.

If medical writers would employ themselves in presenting

us with improved methods of treating various diseases, or in detailing useful facts and discoveries, they would render a more acceptable service to the profession and to mankind at large, than by attempting to introduce new nomenclatural arrangements, founded upon trivial distinctions, and tending to no valuable practical result.

They seem to have forgotten that the principal end of classification is to aid, not to burden, the memory, and have, in turn, piled one system upon another, until we turn disgusted and appalled by the labour necessary to surmount them.

It was not, however, our intention to furnish a critical review of Mr. Buchanan's work. We shall, therefore, conclude with observing, that we think it contains some useful suggestions and improvements, and is deserving of a perusal from every practitioner.

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ART. XII. *Observations on Acute Rheumatism, and its Metastasis to the Heart, &c.* By THOMAS COX, M. D. Fellow Med. Soc. Lond., Memb. Royal Med. Soc. Edinb., and Hon. Memb. Phys. Soc. Guy's Hospital.

THE virtues of a medicine so highly and so long celebrated as the vinum colchici, must be heard with interest, more particularly as unpleasant and dangerous effects are said to be sometimes produced by it, even in very small doses, as nausea, vomiting, frequent bloody discharges from the bowels, tenesmus, great prostration of strength, &c., which a few drops of the tincture of opium, added to each dose, will generally obviate.

It is contended by some practitioners, that the use of colchicum increases the disposition to metastasis: the author states that he has never met with a case of this kind, but that he has witnessed undoubted benefit from its employment in a metastasis to the heart, and this has been confirmed by other cases related to him, where the most favourable results followed its exhibition. The symptoms of this affection will no doubt be interesting to our readers.

*Metastasis to the Heart.*—He thinks that the majority of cases of organic disease of the heart in young people are connected with rheumatism. The affection of this viscus occurs

at the commencement of the rheumatic attack, or at any subsequent period; it may be attended with severe rheumatic inflammation of the joints, or, in some cases, it will appear on the sudden abatement of such inflammation; it is sometimes simultaneous with the rheumatism of the joint, and occasionally precedes it.

*Symptoms.*—Pain in the region of the heart, extending to the back; inordinate palpitation; considerable dyspnœa, and oppression of the chest; respiration hurried and painful, and when an attempt is made to inflate the lungs, it causes considerable increase of the pain of the heart; expression of countenance anxious and peculiar; pulse hard, strong, and frequent, with a general restlesness; frequent dry cough, pain in the head, occasional giddiness, and throbbing of the carotids. These symptoms may be occasionally obscured by the presence of rheumatic affections of the muscles of the chest, which will be discovered by careful investigation.

*Appearances on Dissection.*—These will vary according to the duration of the disease, and violence of the symptoms. Adhesive matter will be found deposited on the surface of the heart and pericardium, "exhibiting what has been denominated a honeycomb appearance, very characteristic and striking; the quantity of this deposition varies considerably, and we often find bands of recent adhesive matter extending from the pericardium to the heart, and these admit of being injected with size. Turbid serum is contained in the pericardium, occasionally assuming a sero-puriform character, and sometimes tinged with blood."

When the disease has come on insidiously, unattended by evident marks of high action, or the violence of the symptoms somewhat abated by moderate antiphlogistic measures, and the life of the patient thus protracted for months or even years, the heart will be discovered, on dissection, to be enlarged, chiefly in the left ventricle, its muscular texture pallid and tender.

"Dissection discovers no material difference between idiopathic inflammation of the pericardium, and that connected with acute rheumatism: I have examined three cases of that description, in neither did the pericardium adhere to the heart, and in one bloody serum was effused; the honeycomb deposite was well seen in both."

"CASE.

"*December* 22, 1822.—William Brown, æt. 20, was attacked four days ago, after exposure to wet and cold, with febrile symptoms, soon followed by acute pains in several of

the joints, which are at present very severe, with pain in the region of the heart; respiration hurried and anxious; palpitation considerable; countenance distressed; cough frequent, loose, and painful; pulse 120, strong, hard, and contracted; tongue white; much thirst; bowels constipated.

Sit V. S. ad ℥xvj. statim.

Cap. Inf. Sennæ et Magn. Sulph. 2$^{da}$ q. q. h. donec alv. purg et postea.

Tinct. Digit. ♏ x 4$^{ta}$ q. q. h. ex Inf. Rosæ.

23d.—No relief by bleeding; blood buffed; symptoms nearly the same:

Rep. V. S. ad ℥xij. et Digit. ut antea.

24th.—Bleeding gave temporary relief only to pain of chest; joints somewhat easier; pulse 126, jerking.

Rep. Digit.

R. Hydr. Submur. gr. iij.
Antim. Tartar. gr. ⅓.
Opii gr. j. ft. Pil. h. s. s.
Cuc. Cr. ad ℥x. reg. cordis.

25th.—Pain in the left side of chest less acute; anxiety of countenance and distress in breathing the same; makes but little complaint of joints; pulse as yesterday.

Appr. Hirudines xij. lat. sinist. et Emp. Lyttæ postea.

Intermitt. Med.

Sumpt. Ext. Conii g. v. c Ipecac. gr. j. 8° ter die.

This lad lived till Jan. 8th, without any abatement to his sufferings, and towards the close the anxiety of countenance and distress in breathing were considerable.

*Dissection.*—A honeycomb deposite on the heart and inner surface of the pericardium, with a few bands of adhesive matter attaching these parts together: a few ounces of very turbid serum were contained in the pericardium, with flakes of lymph floating in it. Heart itself not enlarged nor altered in structure."

The local abstraction of blood in rheumatic affections of the joints is reprobated, as disposing to metastasis. When the affection of the pericardium has become chronic, we can only hope to afford partial relief by perpetual blisters, setons, issues, the application of the Ung. Tart. Antimonii, &c., plain vegetable diet, diluents, rest, &c.

ART. XIII. *Observations on the Cholera Morbus of India; a letter addressed to the honourable the Court of Directors of the East India Company.* By WHITELAW AINSLIE, M.D., M.R.A.S., late of the Medical Staff of Southern India.

THE different modes of treating the cholera of India are considered by Dr. Ainslie, since the disease has become epidemic, in 1818: The great reliance of the medical world in that interesting quarter of the globe, seems to have been upon "antispasmodics and stimulants, external as well as internal; calomel, emetics, magnesia with milk, the timely use of blisters to the head and feet, sinapisms to the abdomen, the nitric* acid given internally, warm embrocations, anodyne injections and sand baths; changing the doses and repetitions accord- to circumstances. Mr. Scott has added to his publication several useful formulæ,† corresponding with the modes adopted; and also some instructions from a medical officer, whose name is not mentioned: this gentleman directs that the *first* thing to be done is to administer a draught consisting of tincture of opium and sulphuric ether, of each a drachm; if this is vomited, repeat every time, in ten minutes; half an hour after the vomiting has ceased, he gave the following bolus: calomel, twelve grains; camphor, three grains; opium, one grain; oil of peppermint, two drops: if this was vomited up, it was repeated in half an hour. When there is no vomiting at all, he advises that the sufferer should take this draught:

* "The nitric acid, I have been informed by my friend Dr. Gordon, had in some cases of epidemic cholera been administered with success; but this success must not be allowed to militate against the theory I have adopted, that the *gastric acid*, as it has been called, is a source of immediate mischief in the disease in question. This acid is altogether *sui generis*; and though to be corrected by antacids, it is a curious fact, that it is less likely to be produced by acid fruits and acescent vegetables than by made dishes and high seasoned food, which but too often weaken the powers of the stomach, and, according to the ingenious experiments of M. Magendie, must thereby prevent the rapid absorption of fluids from the stomach, which is continually going on while that organ is in a healthy state."

† "As a good sinapism for the stomach, he recommends powdered mustard seed, half a pound; powdered capsicum and powdered ginger, of each a drachm, made into a cataplasm, with vinegar; to which is added, two ounces of oil of turpentine. The following he recommends as an antispasmodic mixture; camphor mixture, one pound; laudanum, six drachms; aromatic powder, three drachms; *mix*: of this two ounces are a full dose. As an antispasmodic draught, he ordered brandy, an ounce; water, an ounce and a half; tincture of opium, fifty drops; tincture of capsicum, two drachms; *mix*. As a stimulant draught, he gave powdered capsicum, a scruple; powdered pepper, two scruples; water, two ounces; *mix*."

tincture of opium and sulphuric ether, of each half a drachm; ipecacuanha wine, half an ounce: water two ounces, *mix.* And after that is vomited he prescribes this bolus: calomel, twelve grains; extract of jalap, four grains; camphor three grains; opium, one grain; oil of peppermint, two drops; *mix*; and if this produce no effect, the draught was to be repeated after forty minutes. Amongst other remedies recommended by Mr. Scott, he mentions a blister for the abdomen, prepared with boiling water, as often proving beneficial in critical cases; a fact which I can easily conceive, as in this way a blister* is raised at once.

"For some time past the medical men of the East, having found, from the frequency of death from cholera, even when the patients had been attended to with the greatest care, that some other plan must be adopted, have had recourse to bleeding, and in many instances with good effects. Mr. Corbyn says, that while he gave to natives fifteen grains of calomel, washing it down with sixty drops of laudanum and twenty drops of oil of peppermint, in two ounces of water, he would strongly recommend, that in treating the malady in Europeans, copious bleeding should not be omitted; and never less than twenty grains of calomel and twenty drops† of oil of peppermint, in two ounces of water, be administered. On the spasms attacking the abdomen, he recommends a blister to the part; should the blister fail in drawing, and the blood not flow from the veins, he says the patient should be put into a warm bath; when the vomiting and purging are incessant, he gave, without hesitation, eighty drops of laudanum, with twenty drops of oil of peppermint, and twenty grains of calomel, injecting at the same time forty drops of laudanum in rice water, by *enema*. Of bleeding, Mr. Scott observes 'it was first thought of in cases where there was much spasm, consequently much reaction. On such occasions the relief was obvious and immediate, and the practice was in consequence established. Much has been said for it,' he adds, 'and much against it. The advocates for it, allege that nothing less than thirty ounces taken away will do good; when those who are against it declare, that if the circulation is in a state to stand such depletion, the case must have been mild, and the patient would have got over it at any rate;' conclud-

* "A useful blister has also been prepared with the nitric acid, as was experienced by Mr. Powell, of the Bombay establishment. See Chisholm's Manual of the Climate and Diseases of Tropical Countries, p. 85."

† "See Reports of the Epidemic Cholera which has raged throughout Hindostan since 1817, and published at Bombay, p. 4 of Appendix."

ing by observing, 'it must be confessed, that fatal collapse suddenly following large bleedings, has lately staggered the faith of many practitioners.' It is but too true, then, that this appalling distemper still continues, in numerous instances, to baffle the best skill of many able and humane men; one of whom, who has lately returned from india, Mr. Goldie, late member of the Medical Board of Madras, has just informed me that he had witnessed several cases when bleeding freely at the commencement of the disease, by relieving internal congestion, had no doubt saved the patients; but, alas! he added, that in others it did no good; and that, with regard to the large doses of calomel which have been so much vaunted, he had occasion but too often to observe that that powerful mineral, in severe attacks, not unusually lay in the stomach altogether inert!!* If Mr. Scot's words were hopeless, these are, it must be confessed, but little more encouraging."

Dr. Ainslie differs widely from the prevailing opinions on this epidemic; and as it is evidently owing to the usual cause of fevers, putrefaction, we think the theory adopted by the author under review will not be found tenable. He considers that the cause is an acid in the primæ viæ, and that the best mode of attacking it is by the use of antacids, of which he prefers magnesia, which he has successfully used in the sporadic cholera, which is the same as the epidemic disease; also, as the cholera of our country. He gives it in the following manner:

"I should with great confidence order it at once, in the more serious affection, in a full dose, but in tepid water, *not* milk, and also by *enema* in barley water; previously, however, having recommended a purgative injection, from a conviction that nothing contributes so much to relieve the stomach as what gives a tendency downwards to offending matter. Should the magnesia be rejected, I would instantly repeat it, and with it a good portion of powdered ginger or black pep-

* "The large doses of calomel lately given in India for the cholera, seem to have been first liberally used by Mr. Corbyn, from a notion which he had adopted, that although this mineral, in the quantity of from five grains to eight, operated as a *stimulant*, in larger portions, such as twenty grains, it was a *sedative*.—See Bombay Reports on the Cholera, Appendix, p. 3. He does not appear, however, to have made a convert to this opinion of Mr. W. Scott; on the contrary, that acute observer says, that the success of those who used calomel in large doses was not greater than that of those who did not; and that when it had been given to great extent, it had been found, after death, coating the internal surface of the stomach, lying embedded in greenish mucus, marks of INFLAMMATION being visible on the spot (see Mr. Scott's Report, p. 57): consequently, acting like any thing but a sedative; perhaps rather by its actual weight and pressure."

per; and then, fearing the case likely to become extreme, I should order a small blister to the inside of the lower part of each leg, to keep up as much as possible the vis vitæ in the extremities. Supposing, however, but which I never experienced in the sporadic disease, that the magnesia came up again and again, I should look for the flow of bile (which the violent straining often excites) as something that might come to my aid; and, in promoting this, I have frequently found hard rubbing with the hand upon the region of the liver prove successful. If also here disappointed, I should (still considering the cause of the vomiting to be of an acid nature, and such a one as must not be shut up by an opiate) have recourse to some other antacid; for surely we may question the policy of closing the gates of the garrison, whilst the enemy still storms within. I cannot but express a regret that more* had not been done to ascertain, by chemical analysis, what was the peculiar nature of the fluid vomited up; for to be told that it is greenish, or turbid, or whitish, can avail us nothing. Should the administration of antacids succeed in stopping the vomiting, little more will be necessary than next morning to carry off what bile may have been stirred up, by some purgative medicine—such as the compound colocynth pill with a little calomel; and if any opiate is given to sooth, after all the offending matter is worked off, it ought to be of the gentlest kind, caution being used that no food is taken for some days of a nature at all likely to renew the irritation of the stomach. Weak, well prepared coffee, without milk, with a little toasted bread, I found the safest diet on such occasions. Nay, I have had reason, in more cases than one, to think that coffee so prepared had peculiar virtues in checking vomiting;

* "I can find but one solitary instance of any examination of this kind having been made; and that was by the intelligent Dr. P. Scott, of the Madras establishment, as is noticed in Mr. W. Scott's Report, p. 58. It was in a case that terminated favourably, when nothing had been given internally but magnesia and milk; he says he discovered no acid in the discharges, so was at a loss to imagine how the medicine could have cured the disease, but supposed the bland nature of the milk must have allayed the acrimony, and so put a stop to the vomiting. No! it was the antacid, the magnesia that was in this case sanative. I am of opinion that the fluid vomited up on such occasions somewhat resembles what is eructated in *Cardialgia Sputatoria*, which in certain instances is much less marked by an acid than in others: this is a disease Dr. Good believes may probably owe its existence to a peculiar inactivity of the proper absorbents of the stomach. It may have been a case in which the acid principle was much diluted, that Mr. P. Scott alludes to, so not easily detected; for true it is, in complaints of this nature, to use the words of the author just named, 'The existence of an acrimony from *acidity* seems to be common to all its varieties.'—See Good's Study of Medicine, vol. i. p. 125; also, 123 and 126."

and we shall by and by see that the inhabitants of Luconia take it with this view.* If, in spite of all I had done, the vomiting still continued, and that it appeared from what was passed by stool that no bile flowed into the duodenum, owing, perhaps, to the severity of the spasms constricting the mouths of the biliary ducts; I should try what could be done by giving either half an ounce or an ounce of calf's bile, or that of the ox a little diluted, and repeating the dose if necessary; or, if neither of these could be got, by administering the aloetic mixture already mentioned."

The Doctor then concludes his essay with the proposal of galvanism, which he would direct to the stomach, brain, liver, heart, &c. It is a proposition apparently made at random, and without experience. Some plans of practice used by the native physicians in India are added; they have no interest for an American reader, as the articles prescribed cannot generally be procured in this country. This plan of treating cholera by magnesia we have thought proper to give, as Dr. Ainslie is a gentleman of great experience, though we must confess it is a medicine which we suspect has but little power. The above facts, with the notice of cholera already given in a former number, will put the subscribers in possession of all that is new upon the subject.

* "Weak, well-prepared pepper water, with a little toasted bread, may be safely taken, or ginger tea made not too strong."

# ANALYSIS

OF

# AMERICAN MEDICAL JOURNALS.

ART. I. *The North American Medical and Surgical Journal.*

DR. COATES on the Gangrenous Ulcer of the Mouths of Children. This disease commences in the gums, near the necks of the teeth, and sides of the cheek, with a slight ulceration and loss of substance, attended by an air of general languor and weakness, without pain or, in general, fever. When the ulceration extends, the tooth becomes loose, gangrene takes place, the sloughs separate, and fever appears, particularly when the disease reaches the gums or lips, and when they attack the cellular membrane, it becomes phlegmonous with thickening and tumor round it. The disease is, no doubt, produced by general debility; the soft parts about the mouth being the weakest in the system. Touching the ulcers with a strong solution of the sulphate of copper, cured the disease, with an early extraction of the teeth, as advised by Drs. Fox and Pearson; the solution is applied carefully twice a day to the ulcerations; Mr. Pearson advised, in the same disease, diluted mineral acids, burnt alum, decoction of bark, with white vitriol, tincture of myrrh, &c. The preparations of copper, though they succeeded with Dr. Coates, are by some said to be pernicious. The sulphate of zinc, in strong solution, succeeded with Dr. Parrish. In different seasons and cases, no doubt different preparations will succeed, as is the case with all other ulcers. Muriatic, nitric, and sulphuric acids failed; constitutional means were of no use in this malady, in Dr. Coates's experience. In the practice of M. Marjolin, the actual cautery applied to the ulcers, also caustic, potash, and muriate of soda, destroyed the fœtor, and removed the disease. Dr. Huston relates a case of purpura in an infant, with a peculiar bloody discharge from the vagina, resembling the menstrual flux; no doubt an exudation from the petechiæ. It was attended with spasms, which ceased on the appearance, and recurred with the disappearance of the discharge. For the History of the Small Pox, by Drs. Bell and Mitchell, and the Essay on the Yellow Fever, by Dr. Meigs, one of our most respectable practitioners, we refer to the book itself. The prophylactic treatment of Cholera Infantum, by Dr. Parrish, consists in the use of fresh air, procured by frequent visits to the country, and by free ventilation; cutting the gums, blisters behind the ears, to relieve dentition: all flatulent and indigestible food should be avoided by the mother: The child should live on breast milk; take occasionally of meat, such as ham; use moderately spices, pepper, cloves, as assistants of digestion. Salt meat and ginger tea, prevented the disease in several instances. The cold bath is also recommended. Dr. Ewing, an ingenious young physician, relates a case of Neuralgia cured by acupuncturation. The disease had been of eighteen months standing; the needles were kept in for about two hours.

ART. II. *The New York Medical and Physical Journal, for April, May, and June,* 1826.

DR. FOUNTAIN, in a paper on the Diseases of Irritation, gives the following facts on the effects of mercury: An ointment made of corrosive sublimate, applied to the hand in a case of psora, produced intolerable pain; which

continued for two months: opium partially relieved it; at length it subsided. In another case a person was salivated by calomel; severe pain came on in paroxysms, and in both sides of the face; it came on in sudden twitches; and was cured by administering a dose of ipecacuanha every evening, followed throughout the forenoon by a tonic of quasia, with carbonate of potash; which operation is explained by Dr. Fountain, by the sudden impulse communicated to the nervous system, which effected a change in the morbid condition of the nerves concerned, whilst the tonic supported the natural powers of the system, and thus prevented the evolution of the irritative action This explanation of the mode of operation of this medicine, is given as a specimen of the medical philosophy which runs through this paper. Can Dr. Fountain suppose for a moment that this circuitous mode of expression of the simple fact that the emetic, &c. cured the disease, is philosophy, or an explanation of any thing but a desire to indulge in long words, and a love of spinning the web of a too pregnant fancy, thereby to sail through the atmosphere of medicine, not, however, to the admiration of those who contemplate these flimsy and airy productions. The above facts are the only things to be remembered in this essay: Irritation, phlogosis, &c. the prevailing terms of the day, by which its novel doctrines are couched, express simply, a noxious effect produced by agents on the system; an effect, however, too vaguely designated by them, to consider them or the doctrines founded on them as of any use, either in a practical, or of any solidity or duration, in a theoretical point of view. Certain agents, as a wound, followed by tetanus, produce an irritation followed by death; others, as pure sulphuric acid taken into the stomach, or the miasmata producing malignant fevers, occasion the same result by inflammation, &c. Does this phraseology convey any thing new, practical, or useful, to the mind? The belief that tetanus is an irritation, is disputed; some say it is an inflammation,* others say not;† and both prove their points by dissection. Do the miasmata which produce malignant fevers, occasion death by inflammation or irritation? There is the same difference of opinion also upon this point, and the same appeal to the same mode of proof; the same variety of practice and of symptoms, adduced to show that the disease amounts, sometimes to inflammation, at others to irritation, without being able to ascertain where the one begins, and the other ends, or the appropriate remedies for each, or the actual existence of each particular state in any particular case, and determine whether the remedies for irritation or inflammation are proper. These terms express simply a morbid influence, and that very vaguely; we are still left to the symptoms or phenomena, and very often to that ignis fatuus, still more illusory, the predisposition hereditary or acquired, to determine what remedy in each case is proper. This applies to tetanus: By some it is treated by blood-letting, as if it were an inflammation; by others, by stimulants, as if it were an irritation, as it is called; and each pleads the value of his practice; showing, evidently, that these doctrines express the uncertainty, and not the certainty, of our art.

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Dr. Hammersly gives a case of difficult and suppressed menstruation, in which he considers nauseating and purgative medicines contributed to the cure. This result is detailed in the space of ten pages. It is quite too voluminous.

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Dr. Stevens relates the case of an injury of the heart from a needle, which penetrated into the chest, so as to lacerate, by the continued beating of the heart against the head of the needle, the right ventricle of the heart on its upper and anterior surface, presenting a perforation large enough to admit an ordinary probe; the right side of the heart was empty, and the left distended with blood. In about ten minutes after the accident the pa-

* See Saunders on the Spinal Marrow. † Carmichael.

tient began to grow faint, the skin became cold, pale and moist; the eyelids closed, and the pupils dilated, with great uneasiness when an attempt was made to turn him on his back.

The injury was at first supposed to be a wound of the internal mammary artery; for which Dr Stevens proposes to remove a piece of the sternum, an operation often performed before, though not with this specific object.

"The operation of trephining the sternum was performed successfully by Galen, and is very amply treated of in the elegant memoir of Monsieur de la Martiniere, in the twelfth volume of the 12mo. edition of the memoirs of the French Academy of Surgery. La Martiniere performed the same operation, and cites several cases of its success. I have myself removed a large piece of the sternum, carious from syphilis, in the case of a distinguished military officer. There is every reason to believe that a wound of the internal mammary artery would require such an operation, and that it might be practised with success. In one of La Martiniere's operations, the internal mammary, after having been divided, did not require a ligature, but was prevented from bleeding by a dossil of lint."

"History of a Boy whose Breast-bone was cut out, and his Heart exposed. From Skenkius Obs. Med. Fol. 1609, p. 291.—Translated by Eugene Weld.

"A boy (the son of Marulus Mymographus,) receiving a blow on his breast while wrestling, was at first neglected, and afterwards entirely cured. After four months, pus appeared in the wounded part, and the physician thinking to put a stop to this, made an incision; and, as he expected, the wound quickly cicatrized; afterwards inflammation appeared, and suppuration commencing, another incision was made, but no cicatrix could again be produced. Afterwards his guardian having called a consultation of physicians, (among whom I was included) desired us to deliberate upon his case. And when mortification, or what the Greeks call sphacelus, appeared to us to be the complaint under which he laboured, there appearing also to be a motion on the left side of the heart, no one dared to extract the diseased bone, for they thought that it necessarily involved an opening into the thorax. But I engaged that I would operate without making a perforation in the thorax, but promised nothing relative to the absolute cure, since it was uncertain whether any of those parts situated within the breast were diseased. The parts being then examined, and no farther injury appearing than at first, I more confidently undertook the operation. Although the parts to which the arteries and veins were attached appeared entirely sound on each side, when I had removed the affected bone from that part upon which the vertex of the pericardium rested, and when the heart was exposed to view, and its envelope was entirely decayed, then entertained but little hopes, nevertheless he was entirely cured in a short time, which would not have taken place, if no one had dared to have extracted the diseased bone. And no one would have operated unless previously acquainted with anatomy."

Dr. Stevens also gives an account of the removal of an encysted tumour from the neck, with some remarks from Sir Astley Cooper and Allen Burns, on the necessity of tearing out tumours, when seated above large arteries; for which we refer to the book itself.

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ART. III. *The Philadelphia Journal, No. 5, May, 1826.*

MR. SPACHMAN gives an account of a disease of the heart, in which that organ was covered with thick layers of coagulable lymph: It must have proceeded from inflammation, though there is no account given of the symptoms. Baillie, and others, describe similar cases.

An account of the Hospitals of Paris is translated from Ratier: In general this survey is not sufficiently minute, particularly in regard to the symptoms which indicate the various plans, to interest our readers. The following

mode of judging from the physiognomy of the seats of particular diseases in children, is new, and deserves attention, though it is by no means as yet demonstrated.

"Independently of the alterations in colour which the face may present, and which may furnish the physician with signs more or less positive, the expression of the physiognomy, and the greater or less prominence of this or that feature, have also the power of assisting the diagnostic.

In the infant, the facial muscles of which are not endowed with a very great mobility, three principal traits present themselves to the observer. They run nearly parallel, and have a direction, from the centre towards the sides of the face. The first, (the zygomatic,) leaving the great angle of the eye, go to lose themselves near the corners of the mouth. The second, (the nasal,) begin on the upper part of the sides of the nose, and proceed in a semicircular direction towards the commissures of the lips. They are sometimes cut by a small trait, (genal,) which directs itself towards the middle of the cheek. The last, (the labial,) has its origin at the commissure of the lips, and goes to lose itself in the chin.

Each of these traits or features corresponds with some one of the splanchnic cavities. The first is connected with the diseases of the cerebro-nervous system: the second with its accessory (the genal), are connected with abdominal lesions; whilst the third points out the affections of the organs of the circulation and respiration."

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Dr. Taylor gives a history of several cases of Chorea Sancti Viti, from worms, which he treats by the ordinary means. He mentions a curious case of the same disease, from pregnancy; the patient at two successive times, was affected with chorea: For the other dissertations we refer to the volume. The Essay on Epidemics is learned, and gives a full view of the general phenomena of these formidable scourges.

An interesting case of Hydrophobia cured by taking largely of the sugar of lead, (10 grains every half-hour) till 330 grains, and 4 ounces of Goulard's Solution were taken in four days: The author advised the application of lead externally to a blister, the effect of which was to paralyse the limb no which it was applied; no return of the paroxysms of hydrophobia followed. The author of this idea was Dr. Fonerden: The case is given by one of the physicians of the Baltimore Dispensary; in eleven days she was walking about the house perfectly well.

A case of superfœtation is then given, which occurred in a cow; as there can be no doubt that this phenomenon does take place, a more particular notice of this paper is omitted.

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Art. IV. *The New-England Journal, No. 3, for July*, 1826.

This number contains a sensible Essay on the Bills of Mortality, by Dr. W. Channing, jr. It shows the necessity, as well as the errors, of our bills heretofore made. In Philadelphia the bills are regularly and pretty accurately drawn up; though in London they are not so much so, and we believe also in many of our cities.

Dr. Channing also gives one case of death from an inflamed blister, and another in which it had a very serious effect.

The first part of the essay is occupied with a description of the symptoms produced by an ordinary blister, an unnecessary detail: We are said to be a young people; we have, however, all the garrulity of age, if our medical writings can be taken as a criterion. The inflammation of the blister was renewed in a very inflammatory habit, by wetting the feet, and exposure to rain, and was followed by dangerous symptoms; in the other mortification took place, and the child died.

# ANALYSIS OF FOREIGN JOURNALS.

ART. V. *The Edinburgh Medical and Surgical Journal, for January* 1, 1826.

*Of Squamous Disorders.* By E. W. DUFFIN, M. D.—Dr. Duffin, after some general observations respecting the obscurity which still involves this class of diseases, defines them "a morbidly harsh, or scabrous, hard, thickened condition of the skin, accompanied by a desquamation of thin lamina of cuticle, or a separation of whitish opaque scabs, leaving either a natural and healthy, or a reddened, smooth, and glistening surface underneath." In the dispensary practice of Edinburgh, which came under his observation, he found the cases of psoriatic lepra, during the last year, to outnumber by far those of common itch; he believes it to be more prevalent in Scotland than in England. Squamous diseases rarely influence the health of the general system, and those who suffer from lepra are generally of the most vigorous and healthy constitution.

Squamous diseases are divided in modern nomenclature into four genera: lepra, psoriasis, pityriasis, and ichthyosis.—Dr. D. believes the two first to be the same excepting the accidental form the eruption assumes. The remaining part of the Essay is confined to the consideration of lepra and psoriasis, which he treats of under the single appellation of lepra, after the following manner: It "is characterized by scaly patches of different sizes, often exhibiting a circular form, the borders somewhat elevated above the centre, and more scaly, more especially in the advanced stages; when the centre is often nearly healthy skin, commencing with small, elevated, papular spots of a round form, varying in size from that of a coriander seed, to that of a pea split, and in children often much smaller; their surface sometimes rough, more generally polished; not marked with cuticular lines, highly vascular, bleeding if cut; sometimes in children and persons with delicate skins contain a small vesicle in the centre, &c.—*See the Review of Plumbe.* Med. Recorder, vol. IX.

TREATMENT.—The author commences by narrating the various modes of practice that have been pursued at different epochs; he founds his mode of treatment upon the two states in which these diseases may exist; the one active, irritable, or inflamed; the other chronic, or inactive. On a patients presenting himself, the following observations are made: "1st. As to the extent and duration of the eruption: 2d. Whether it has arisen from any cognizable cause: 3d. If that cause or its effects be still in operation: 4th. Whether the constitutional symptoms, if present, are primary or secondary: and lastly, Whether the disorder be chronic or active;" of which we judge by the existence or non-existence of fever, the irritability of the parts affected, &c.

When the eruption is limited, and no constitutional symptoms appear, topical bathing, with local applications, comprise all that is requisite. As a local remedy he employs the pitch and weak nitrate of mercury ointments, separately or conjoined; or a solution of mur. hyd. corros. in dilute alcohol, and immersing the part in warm artificial Harrowgate water, for the preparation of which he gives this formula: R sulph. magnes. two drachms; super tart. potass, ten grains; sulph. potas cum. sulph. (sal polychrest) half a drachm dissolved in about twenty-four ounces of warm water: the diseased part to be washed with it, or immersed at the temperature of 95° Fahrenheit, two or three times daily, for 15 or 20 minutes at a time, and a mixture of equal parts of weak citrine and tar ointments, to be applied after each immersion.

If the morbid part be in an irritable and inflamed state, though still limited in extent, then simple warm bathing, the application of a good number of leeches, and a poultice until this state be subdued should be premised.

If the eruption be extensive, but in an inactive state, the treatment consists of external applications, together with warm bathing, and of remedies termed specifics; of these there are two, murias hyd. and arsenic.

As a topical remedy in chronic cases, Dr. D. employs almost uniformly one ointment, ung. nit. merc. cum ung. picis. This is rubbed on the part, night and morning, to be cleaned off with a dilute mixture of aq. potass, two drachms to six ounces of water, or with fresh butter or oil, as soap and water alone have very little effect in removing it; having accomplished this the diseased parts are to be well brushed with a solut. mur. hyd. two grains, proof spt. one ounce.

Respecting warm bathing the temperature should be from 86° to 90° Fahrenheit, and may be administered daily for weeks, without any injury to the general health.

The sulphur vapour bath is considered the most beneficial. Tar and acetic vapour baths have also been found useful. In the constitutional treatment the bowels should be first attended to, but repeated purging is injurious. As an aperient two drachms of the artificial Harrowgate salts before mentioned, may be employed at the same time. Fowler's Solution of Arsenic, commencing with four drops three or four times a day, gradually increasing the dose, is to be given in the decoct. dulcamara, mezereon, or sarsaparilla: small doses of this medicine taken at short but repeated intervals, appear to be more useful and less injurious than any other mode of administration; the sensible effects on the system are, a quickening of the pulse, even to twenty or thirty beats per minute, more than natural, next a prickling soreness or itching, attended with a puffy swelling of the eyelids, of the lower one in particular; or the eye is surrounded by a slightly livid circle; sometimes these are the first symptoms; beyond this the medicine should not be continued, as unpleasant effects begin to appear, viz. sickness of the stomach, &c. &c. If the arsenic produces pain in the chest from the first, its employment is precarious, and the mur. hydrarg. may be substituted in the dose of one sixteenth of a grain three times a day, until the gums are slightly affected. No other form of mercury is equal to this in cutaneous disorders.

We next proceed to the treatment of the disease when accompanied with constitutional symptoms, or when the local disease is inflamed and painful.

When the constitutional symptoms and local irritability are primary, the indications are, 1st. To remove general irritation, by means of antimonial emetics, and purgatives, if it arises from acrid ingesta. If fever is present, with full pulse, blood-letting is indicated, and even where no general symptoms exist, this latter remedy is very often proper to reduce the irritability of the skin, and its susceptibility to disease: It further prepares the system to be more readily operated on by the arsenic. It will be necessary to bleed largely and repeatedly to effect our purpose. Dr. D then discusses the subject of the utility of venesection in these affections, and next proceeds to the consideration of other remedies as auxiliary means. It has with him proved of great utility "to keep the patient really sick for a day or two, by means of nauseating doses of antimony, together with the daily use of the tepid or simple vapour bath; the first at the temperature of from 76° to 80°, and the latter at 96°, (as a very hot bath is injurious). After the active symptoms are subdued, stimulating local applications, and the internal use of the liquor arsenicalis, are proper. When the scaliness has disappeared, leaving the skin harsh and rough "the solution of mur. hydrarg. in alcohol, or a pretty strong solution of arsenic and decoc. dulcamaræ, used as a tepid fomentation, seem to possess some power in restoring the natural texture."

Dr. D. finally enters on the consideration of the local disorder when re-

acting upon the constitution. No rules can be laid down for the treatment of the symptoms which arise; recourse must be had to general principles.

If a cachectic state of the system is superinduced, the tonic plan of treatment is required for its removal, as wine, bitters, bark, &c.

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Dr. Caleb Crowther details a very interesting case of ulceration of the bladder cured by injection. We shall give an outline of it.

In the year 1814, he was called to a young gentleman, ætat 20, labouring under ulcerated bladder; pain in that region, augmented when voiding urine; pulse quick; irritative fever; emaciated; urine; every day a quantity of fetid purulent matter, amounting to between two and three ounces, found in it; one day, about the tenth of his attendance, on decanting the clear urine from the sediment, he discovered a number of transparent crystals mixed with the pus, from one half to three eighths of an inch in length, narrow, of an irregular shape, an edge at one end, and one side as fine as the sharpest lancet; the crystals readily dissolved in boiling water; a knowledge of this fact enabled him to save the patient's life: he ordered a pint of tepid water to be injected into the bladder twice a day; the effect was striking; pain and difficulty in voiding urine ceased, purulent discharge diminished daily, and in one week ceased entirely, in three weeks restored to health. After this the patient took soda pills several weeks, and the complaint never returned.

Dr. C. thinks the ulcers proceded from wounds made in the coats of the bladder by the sharp spiculæ of the salt or gravel deposited from the urine; (we cannot refrain from remarking that this is at least doubtful.) It is to be regretted that Dr. C. neglected to analyse this salt. Hematuria on voiding urine was an early symptom of this affection, but in the latter stages it was not frequent.

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The paper containing "Hints towards forming a Prognosis in cases of Mental Derangement," is interesting; our limits will, however, only allow of our noticing his recapitulation of them at the conclusion of the paper.

From the aggregate number of patients attacked for the first time with mania or melancholia, properly treated, and put under suitable restraint within three months after the date of the first attack, seven out of ten among the poor, and more of the rich will recover. In a selection made from the aggregate number of such recent cases of mania where the patient is under fifty years of age, where the nervous energy is strong, the circulation equable, the viscera sound, the intellectual powers tolerable, and no unfavourable circumstances occur, the author does not doubt that fifteen out of sixteen may be, and have been restored to reason.

General bleeding, and the want of suitable restraint, render a great number of cases incurable. Most puerperal maniacs who are bled freely, die; where they survive, dementia results. Where mania is the sequel of occasional ebriety, ninety eight cases out of a hundred recover, even after repeated attacks; but if mania is the result of habitual intoxication, dementia follows. If mania is occasioned by typhus gravior, epilepsy, palsy, apoplexy, or injuries on the head, permanent recovery is rare: they often become sane and then relapse. Hereditary tendency predisposes to relapse. When mania is produced by religious terror, or fear of punishment after death, recovery takes place as readily as from other causes of mental irritation; "but where the mind is intensely and exclusively occupied with the mysteries of religion, and the disease comes on slowly, and without fever, the patient imagining himself inspired with prophetic powers, recoveries are very rare."

Indeed, from most kinds of monomania arising from whatever cause, when no fever or bodily disease attends the attack, not one in ten recovers. Great cerebral injury is frequently occasioned by long continued application of

cold to the lower extremities; mania from this cause frequently proves fatal.

When mania arises without apparent cause, as frequently occurs where it is hereditary, the ratio of recoveries is often very considerable.

From dementia he has seen but one case of recovery, and that a very recent one: Some patients recover to a certain point, remain stationary for a few weeks, and then again relapse.

Maniacs recover more slowly and less frequently from the second and third attack, than the first, except it arises from occasional ebriety, fits of anger, or in half idiots. Mania tends materially to shorten life in all cases, except such as are unattended with ostensible corporeal disease.

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We pass over "An account of the present state of Medicine in Italy," to matter of a practical nature. We cannot refrain from noticing some observations on the Filaria or thread worm found in the eyes of horses in India, by W. Twining, Esq., communicated to the Medical Society of Calcutta, which forms a part of the first volume of their Transactions. This disease is by no means rare in India. Mr. T saw similar worms extracted from the eyes of horses in Ceylon, apparently darker and larger. "Mr. Gibb, who had charge of the Company's stud, at Ponah, twenty-two years, says it occurs exclusively in the cold months; "between October and March, and if the previous rains have been heavy, the cases of worms are proportionately more numerous during the subsequent cold season. The worm is always found in the anterior chamber of the eye swimming in the aqueous humour, and the usual result has been complete opacity of the cornea, and subsequent loss of sight. Two worms are sometimes seen at once in the same eye, and a second has appeared after the first has been extracted by operating. The worm is easily removed by puncturing the cornea in a proper place by means of a common lancet, and making the aqueous humour spirt out, which carries the worm along with it; the worm resembles a piece of fine white sewing thread, seven-eighths of an inch long. Viewed with a microscope they had the appearance of a large semitransparent piece of catgut. There were five luminous spots disposed circularly near one end; this he imagined to be the head of the animal; below these there was an irregular luminous patch nearly the diameter of the worm in size, from this two parallel lines, similar in appearance, extended the whole length of his body. It deserves notice that this disease is attended with debility of the loins, and as worms like those of the eye exist also in the cellular substance of that animal, and are met with particularly by the side of the lumbar vertebræ in great numbers, Mr. T. conjectures a connexion between the two affections.

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Professor Langenbeck, of Gottingen, has undertaken to extirpate a carcinomatous uterus through the linea alba; the patient unfortunately died.

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A remarkable case of rupture of the uterus is related, where the delivery was safely effected by means of the cæsarian operation: the child was extracted alive, and three years after the operation the patient was delivered, by the natural course, of a seven month's child.

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ART. VI. *The London Medical and Physical Journal, for March*, 1826.

[Continued from page 208.]

THE following is abstracted from Dr. Richter's late papers on Necrosis.

Necrosis Syphylitica begins in the substance of the bones mostly, and extends lengthwise; pain of a boring, gnawing kind, increased when warm in bed, swelling gradually increases, inflammation slowly developed, never

very acute; does not extend beyond the swollen part of the limb; redness of a pale rose colour, limited, well defined; temperature not high; pain from inflammation of the soft parts more superficial and lancinating; can be distinguished from the boring, gradual, deep seated pain, which characterizes this species. All symptoms increase when warm in bed; some time elapses before openings take place in the skin, and, before it is absorbed, it assumes a limited, dark appearance, the surrounding skin finally more absorbed than the cellular substance beneath; the reverse of all the following species; around the principal opening, ulcerations resembling chancres form; the matter differs from healthy pus.

Necrosis Arthritica, occurs only in advanced age; sudden or gradual in its origin, which may occur either on the surface, periosteum, or joints of the bones: course rapid, if the subject be plethoric; gouty paroxysm suddenly suppressed; in other cases more slow; pain acute; seldom felt in the middle of the bones; more superficially on the periosteum, and affects the whole circumference of the limb equally; warmth does not aggravate the symptoms; towards midnight, mostly, an exacerbation; changes in the weather attended with increase of pain; swelling soon follows pain, and becomes considerable as inflammation begins in the soft parts and extends to the bones; inflammation and swelling sometimes simultaneous; redness darker than in the preceding species; less diffused, but gradually vanishing towards the edges; slightest covering sometimes cannot be borne; fistulous openings small, and readily become callous; fluid first discharged, thin and watery, and excoriates; under favourable circumstances may improve.

Necrosis Scrofulosa, occurs mostly during the period of growth, in those of a scrofulous habit; proceeds gradually; may last for years; pains, at the commencement, moderate; observe no regular course; warmth does not increase them, nor does vicissitudes of weather; swelling takes place very slowly, extends over the whole of the parts affected, perhaps all the limb; the under part œdematous; gradually enlarges; not tense and hard; remains doughy; may continue sometime thus, the pain preceding the inflammation which finally takes place, not rising high, of a pale rose colour, however more diffused than the syphilitic species; when of long standing, and most of the bone destroyed, the colour becomes of a bluish cast and darker, in other respects the same; the fistulous openings heal readily, and again break out, or are closed by fungous growths which shoot from them; discharge at first resembles good pus, but often mixed with shreds like the coagulated white of an egg; sometimes the pain ceases when the swelling breaks.

Necrosis Scorbutica. In addition to general symptoms of debility, those referred to the bone are as follows: this species often supervenes to other diseases of the bones, and long before their destruction, pain, &c. take place, swelling violent, becoming œdematous, for some time unaccompanied by inflammation, which, however, finally occurs with rapidity, the blush of colour, dark bluish, imperceptibly lost in the adjacent parts; the sensibility and temperature not so highly increased as in nervous inflammation; the fistulæ form rapidly, enlarge and approximate; sinuses thin, flaccid, and disposed to mortify; the discharge that issues at first is thin, watery, brown, and tinged with blood, but finally, perhaps, improves in quality; light, bleeding fungi, form at the edges of the openings, increase in size, and obstruct the discharge; the contiguous veins much enlarged.

Necrosis Mercurialis resembles very nearly the preceding, and runs a tedious, unfavourable course.

Necrosis Metastatica. The soft parts surrounding the bones are usually first attacked in this species; the bones secondarily and sympathetically affected; the symptoms sudden in occurrence, and rapid in progress; pain, swelling, inflammation, and abscesses, nearly simultaneous, so that in a few days, or, perhaps, a few hours, a portion of dead bone may be detected with a probe; the pain is sudden, violent, darting, and constant; the swelling is

considerable; rapid when the soft parts are first affected; more slow when the bone is the seat of disease; the inflammation is limited, violent, very painful, with redness of a deep tint, the temperature high: abscesses form and rupture speedily; when the muscles and cellular substance are at first attacked, one opening is formed; if the bone is the primary seat, several at distant points; the discharge is of a bad quality, brown, bloody, of a black colour, and thin.

Necrosis a causa Mechanica depends on the degree of violence; its progress is generally rapid, symptoms violent, corresponding, in some degree, with those above described.—(*Journal für Chirurgie*, &c. *Von Graafe und Walther.*)

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M. Reveillé Parise has published a paper on Neuralgia of the Sciatic Nerve, in which, after detailing some ineffectual trials of the oil of turpentine, he declares his belief that the mode of Cotugno is the only one to be relied upon. "It consists in the application of a large blister to the outer and lower part of the knee, upon the head of the fibula, and a discharge supported for a length of time: The bowels must be kept open, as there is a tendency to costiveness. A number of cases are given of cures effected in this way, from which our author draws the following conclusions 1st. That this method is the most efficacious for the cure of sciatica, especially if chronic. 2d. That the suppuration of the blisters or moxa, should be supported for a very considerable time. 3d. That, nevertheless, all irritating applications to the ulcers made by the blisters, &c. should be avoided. 4th. That a laxity of the bowels is a necessary condition in the cure of this species of neuralgia. 5th. That in order to fortify the limb against relapses, frictions, baths of heated sand, &c. must be employed.—(*Archives Generales, Decembre.*)

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*On Fumigation.*—A sectional view is given of two fumigating baths, as constructed at Mr. Green's bath establishment. The clearest idea we can convey of them, is by comparing them to a square church pew, with a lid to it having a hole for the head to pass through: the hole has a linen hood to cover the head, leaving the face only exposed; the patient is seated within on a chair, and the articles to be employed are placed upon iron plates in the bottom, and heated by a furnace below. These gaseous fumigations are doubtless of great utility in many cutaneous disorders; in other diseases the simple immersion in the heated air will be equally effectual.

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*Analysis of Rhubarb.*—M. Caventou has repeated the experiments of M. Zani, (who some time since believed himself the discoverer of a new vegetable alkali in rhubarb, which he said was crystallizable.) M. C. believes the experiments of M N. in many respects inaccurate; on treating the alcoholic extract with ether and alcohol, a fatty matter either combined or separate, was obtained; this contained a little odoriferous oil, and a yellow colouring principle, capable of crystallization, and of being sublimed without decomposition, and which, from its analogy to piperin, may be called rhubarbin: there exists also in the extract a brown substance, insoluble in water in its pure state, but when combined with rhubarbin, acquires the property of solubility, and forms a compound (the caphopicrite of some, and the rhubarbine of Psaff) from this fact so analogous to what is found in the hematoxylon and gentian; where the hematine and gentianin are combined with other vegetable principles, M. Caventou concludes that amongst vegetable substances, one acts the part of an acid, another of alkali, and that they from compounds assimilating to saline substances.—(*Archives Generales, Nov.*)

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*Necessity of Water in the preparation of Lead Plaster.*—Oil and litharge kept at the temperature of 220°, constantly stirred for several hours, will not

combine if water is not present; but on adding a small quantity of boiling water, soap will immediately be formed; water appears, therefore, to be essential to the formation of the plaster.—(*Journal of Science.*)

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ART. VII. *London Medical and Physical Journal, for April,* 1826. No. 326.

A case of popliteal aneurism is communicated by James M. Arnot, Esq. There is nothing peculiar in this case, as relates to the popliteal aneurism itself, except that it appeared to rise without evident cause, after the patient had been under treatment for rheumatism of the knee-joint of the affected side. "The bones of the leg had, however, been fractured some years before." The operation was successfully performed, and the patient began to use his limb, when he died suddenly during the few minutes absence of a companion, with whom he had been drinking beer: this occurred twelve weeks subsequently to the operation.

*Sectio Cadaveris* The pericardium was found distended with blood, separated into coagulum and serum; on examining the heart and great vessels, a small aneurismal swelling of that portion of the aorta within the pericardium, was discovered: not prominent; similar in size and shape to half a small walnut: A spot, the size of a split pea, on the surface of the swelling darker than the rest, and in its centre a minute aperture sufficient to admit the point of a blowpipe, through this the blood had proceeded, which filling the pericardium, and oppressing the action of the heart, had produced immediate death. It is not necessary to describe the appearances of the limb, as they were those generally met with on dissection after the operation for aneurism.

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H. R. Oswald, Esq. relates a case of abdominal dropsy, in which he attempted to cure the disease by exciting peritoneal inflammation. It is unnecessary to trace the progress and previous treatment of the disease, it is sufficient to state that paracentesis had been performed three times, and there were considerable emaciation, dyspnœa, and debility present: Finding that all the remedies usually employed in the cure of this disease had failed, and "being under the conviction (says Mr. Oswald) that the internal surface of the abdominal sac, instead of serous, had passed into a membrane secreting a very different fluid, in this manner rendering the disease, in some degree a local one," he was induced to adopt the bold practice under consideration, which was suggested to him by the case of a prisoner for debt, in castle Rushen, (Isle of Man,) who laboured under dropsy, that had presented itself to his notice some years previously, in which paracentesis was performed, and the wound in the abdomen, owing to the bad condition of the patient's constitution, "not only did not close, but looked angry and callous, and discharged water in large quantities:" This state of things continued for upwards of a month, palliatives only being employed, (being intemperate he drank, at this time, a pint of gin daily, notwithstanding which the wound at last gradually closed, and there was no return of ascites.) This cure is attributed, by our author, to a low degree of peritoneal inflammation, induced by the stimulus of air admitted through the aperture. With this view in the case before us he was induced to imitate this remedial mode. He, therefore, kept the wound open by leaving the canula, for the first night after the operation, in the wound, secured by adhesive plaster, so as to admit a free passage to the air through it. A good deal of water oozed from the canula during the night after its introduction; the wound was then kept open with a sponge tent, aperients administered: July 26, 1823, patient rose, tent in the wound, more water oozed in the bed, urine deficient, skin soft, pulse moderate; two days after the tent slipped from the wound,

which closed before the tent could be reintroduced; after this the case was confined to nourishing regimen and exercise, and a frequent use of pulv. jalap. comp.; two months after the operation reports herself quite well; no accumulation of the water had taken place, health and strength improving, menstrual discharge returned after having been absent for nearly three years; walks to Douglas and back again (distance 7 miles,) the same day with ease. August 30, 1824; until within three months of this period she had remained quite well and menstruated regularly for nine months; her disease had now returned in a violent manner, and at last terminated fatally; it is unnecessary to trace it to that issue: tapping was several times repeated but unavailingly. On dissection a large sac lined with a tubercular carcinomatous, pale coloured fungus, possessing a structure resembling a placenta, was discovered. A considerable variety in the nature, colour, and consistence of the fluids discharged during the course of the disease, was observed, which we do not deem it necessary to particularize.

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Mr. George Richmond, assistant surgeon of the 4th light dragoons, relates, in a very interesting paper, his mode of treating an epidemic ophthalmia which prevailed in Gibraltar and Bombay: it consisted in washing the ball of the affected eye with sea water. At Gibraltar it occurred among the soldiers of the garrison; the children were not affected. It is unnecessary to give the details of the causes and phenomena of this epidemic; it is sufficient to state that it was of an aggravated character, and probably arose from the sudden changes of temperature, and from the clouds of dust brought there by the then prevailing sirocco winds; every prophylactic plan hitherto employed failing, Mr. R. recommended the following: "That every day after the men had returned from guard and other public duty, they should rest two hours, in order to cool themselves and to breakfast. That they should then march to the sea under the command of a commissioned officer, and bathe two or three minutes. Every man to carry a vessel with him, and bring home a very small quantity of sea water, and to lie down on his back seven or eight times during the day, while his comrade with one hand opened the eyelids, and with the other dropped a little of the sea water on the eyeball with a spoon." These means diligently employed speedily put a final stop to the career of the disease in the course of eight days: daily bathing was, however, continued for some months, which proved very beneficial.

The treatment of the disease consisted in the unremitted adherence to the antiphlogistic regimen and bleeding to syncope, in some instances not quite so far; strong cathartics were given, care being taken to avoid emesis as this aggravated the disease; nausea kept up by means of small doses of tart. ant. was, however beneficial; the warm bath was also of service; the ordinary collyria were employed, and weak solution of alum injected every hour between the eyelids he thought the best practice; from this mode the recoveries were complete. Eight years after (1823,) being at Bombay, a similar epidemic occurred there among the children of the charity schools. Mr. R. had here an opportunity of verifying the mode of prevention employed at Gibraltar; "by strictly pursuing this practice, at the end of two weeks the disease had entirely ceased to spread; but in a considerable number in whom it had taken a firm root it required a month to complete the cure." In many children the conjunctivæ lining the upper eyelids were covered with fleshy granulations crowded towards the angles of the eye: These small bodies kept up the morbid action and periodical returns of the complaint; partial cures were effected, but if these granulations remained, relapses occurred on exposure to dust or the least severity of the weather; a few applications of the sulph. cupri to them occasioned their complete removal, and the cure was permanent. Six weeks were em-

ployed in the complete eradication of this epidemic, and two years have elapsed since without a recurrence.

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The paper of Mr. Blackett on Erysipelas contains nothing sufficiently novel to command attention.

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It is at present hardly necessary to cite cases in order to establish the utility of secale cornutum. We shall, therefore, pass over those related by Mr. Waller, without further comment.

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ART. VIII. *The London Medical Repository and Review. January*, 1826.

*Severe injury of the Brain.*—A young man was wounded in the forehead, while in the act of discharging his piece. He was knocked down and stunned by the violence of the blow, but soon recovered so that he was able to ride home, a distance of two miles. On the arrival of the surgeon he was found sitting up, and able to converse on the subject of the accident. On examination, it appeared that the piece of metal had pierced the *frontal bone* a little to the left of the spinous ridge, and entered the BRAIN to the depth of about an inch, carrying before it a circular piece of the hat, and several splinters of bone. After the removal of the piece of metal, as there was a trifling hemorrhage, the wound was dressed with adhesive plaster. Ten minutes after, the patient was seized with an *epileptic fit*, which instantly ceased on the removal of the dressings and consequent escape of blood. The integuments being now raised by a crucial incision, it was found that the opening in the skull was so large, and the fragments of bone so numerous, as to render useless the trephine. All extraneous bodies being now removed, the integuments were laid down and simple dressings applied; venesection was liberally employed, aided by purges and low diet; the wound healed slowly, and the patient recovered. This case happily illustrated the different effects which injuries and pressure exercise upon the cerebral functions. Here we see very slight functional disturbance consequent to extensive local injury; whilst an epileptic convulsion instantly succeeded the confinement of a little extravasated blood.

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*Spontaneous Hydrophobia.* CASE.—Geo. Edgar, ætat. thirty, florid and remarkably robust, being engaged in angling, on the 13th of July, 1824, had occasion to plunge into the water while in a profuse perspiration, and remained there about an hour and a half. At night he felt chilly, was sleepless and depressed; the next day free from complaint; 15th he felt uneasiness about the throat, countenance pallid, expressive of extreme anxiety; the respiration slow, laborious, and interrupted by deep sighs, thirst excessive, but refused drink, as he said it took away his breath. These symptoms yielded, however, to copious venesection, warm bath, and free purging: 16th, though free from pain, every other symptom returned greatly aggravated; respiration exceedingly anxious, and interrupted by violent and convulsive struggles; pulse irregular and intermittent, attended with vertigo, a wild look, and dilated pupils; the sight or even the sound of fluids, now produced a sensation of horror, and sometimes even convulsions. Any attempt at deglutition, or a sudden and unexpected noise in the room, also excited convulsions; venesection was repeated nearly to syncope, after losing eight ounces. Feeling now comparatively tranquil, a fruitless attempt was made to exhibit pills of *opium and henbane*. He succeeded in getting down a little warm tea, but the effort nearly proved fatal. This state of excitement and suffering was suddenly followed by tranquillity and ease. The nervous irritability ceased, the respiration became natural, the pulse

regular though very feeble, and the power of deglutition was perfectly restored as dissolution approached. There was nothing remarkable observed in the post mortem examination.

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ART. IX. *The London Medical Repository and Review. February* 1, 1826.

*Chlorate of Soda.*—Dr. G. Darling states that this preparation was introduced to his notice eighteen years ago, while in India, by the late Dr. Scott, who employed it exclusively in secondary syphilis and pseudo syphilitic affections. Dr. D. on his return to London, exhibited this medicine with the most decided efficacy, in a variety of cutaneous eruptions, in affections of the mucous surfaces, ptyalism, and also the distressing prurigo of females, which readily yields to its employment, after the failure of every other remedy. It may be employed internally, or as an external application; its dose from one drachm to two ounces of the saturated solution in a glass of water, three times a day.

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A case of Hydatids in the Cerebellum, related by F. Bailey, M. D.

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A remarkable case of Spina Bifida, in which the child lived until it attained its thirteenth year, independent of medical or surgical aid; occurring in Newfoundland, and reported by Dr. Lindsay, of the Royal Navy.

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*Artificial Anus.*—This operation was resorted to by Dr. Martland, in a case of complete intestinal obstruction, which had resisted the active use of the most drastic purgatives and stimulating enemata. On examination *per anum*, a large tumour was discovered projecting into the rectum, which appeared to arise from a descent of the colon, forming a permanent invagination. An incision an inch and a half in length was made in the colon, the intestine being previously secured by ligature to the integuments. The patient recovered perfectly with a smoothly cicatrized aperture, through which the contents of the bowels are regularly discharged.

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ART. X. *The London Medical Repository and Review for March*, 1826.

*Otitis successfully treated by Emetics.* By JAMES KENNEDY, M.D., of Glasgow.—In the more aggravated forms of this disease, very free depletion was conjoined with the exhibition of an emetico-cathartic evacuant. Sixteen cases, of a less urgent character, yielded, without a single failure, to the emetic practice. In eleven instances, the emetic was twice, and in five, thrice exhibited; in all, the convalescence was rapid and complete. The emetic employed was ipecac. ʒss. and tart. ant. grs. iij.

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*Case of Difficult Parturition.*—Mr. William Jackson relates the case of a young married woman, who, after a protracted labour of fifty hours, was delivered by the aid of instruments. Her second labour proving tedious and difficult, the cause of obstruction was discovered to be a soft elastic tumour situated *behind* the rectum, which pushed that intestine, with the vagina, against the pubis. As Mr. J. found a foot presenting, and was unwilling to attempt the reduction of the tumour by a puncture thorugh the posterior parietes of the rectum, he ultimately succeeded in effecting delivery by the feet. On the second day after delivery, the bowels continuing obstructed after taking an aperient and the urine being voided with extreme difficulty, the tumour was now punctured with a lancet *at about an inch from the os coc-*

*cystis*, and six pints of a limpid straw-coloured fluid were evacuated, followed by an agonizing pain in the head, which was relieved by the recumbent position. The operation was, at various intervals, repeated, and usually succeeded by violent pain in the head, by tenderness, on pressure, along the vertebral column, by symptomatic fever, and sometimes a deep brown-coloured discharge tinged with blood. The fluid eventually ceased to accumulate, the parts became consolidated, and the patient gradually recovered. Mr. J. is disposed to attribute this collection of fluid to dropsy of the ovaria.

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*Ossific Re-union within the Capsular Ligament of the Femur.**—Case. A feeble lady, ætat. 77, fell on her *right* hip, (Nov. 1821,) when she at once lost all power over the muscles of the limb. On the morning after the accident, the *right* leg was found shortened an inch and a half, the knee and toes turned outwards, and the heel rested in the hollow behind the inner ankle of the sound leg. All attempts at rotation created pain in the situation of the trochanter major; the extension of the limb was readily effected, but not permanently—no *crepitus* present. A firm bandage was applied round the body and the limb supported with pillows. In this situation she continued five months, when she began to use crutches, and finally was enabled to walk with facility, to ascend and descend a flight of stairs, until near her dissolution in April, 1824.

*Examination after Death.*—The head of the femur was found in the acetabulum, and possessed of free motion. *Within the capsular ligament*, and trenching on the head of the bone itself, a line of *compact bony* texture was then seen extending from side to side. This, with the shortening of the neck and thickened capsular ligament, were the only morbid appearances exhibited.

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*Interesting Case of Neuralgia.*†—Symptoms of general derangement in the digestive apparatus occurred in a man, ætat. 32, a fortnight previous to the development of the local disease, which consisted in severe neuralgic pains in the *left* temple, eyeball, and adjacent parts, occurring in paroxysms. In another fortnight, to these symptoms were added, loss of vision in the *left* eye, permanent dilatation and insensibility of the *pupil*, and a paralysis of the upper eyelid. Pil. hyd. and ext. colocynth. were exhibited and followed with saline aperients, but no change was effected in the local disease. The *carbonate of iron* was then given daily, for twenty-six days, in half drachm doses, amounting, in the whole, to twenty-six drachms, when the symptoms gradually yielded, and a perfect cure followed.

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*Emplastrum Plumbi.*—It would appear that *water* is usually directed, by Pharmacopolists, in the preparation of this article, to keep down the temperature, and thus prevent decomposition of the oil and oxide. The reason assigned is founded in error, as the ingredients would not unite, though constantly stirred, for several hours, at a temperature of 220°. Upon the addition of a small quantity of boiling *water*, the oil and oxide were immediately saponified.

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*The Hymen.*—Dr. Campbell relates, in Edin. Med. Journal, Jan., the case of a still-born fœtus, in which the HYMEN was disposed and formed in a remarkable manner. It was in the form of a strong band of condensed cellular membrane, about a quarter of an inch in breadth, and extends obliquely from the pubic to the sacral surface of the vagina, having an opening on each side.

* Case given by Dr. Bigbie in Edin. Journ. of Med. Science, for Jan. 1826.
† By Dr. Belcher, vide Edin. Med. Journal, Jan.

*Rupture of the Uterus, and Safe Delivery by the Cæsarean Operation.*—Dr. L. Frank, of Parma, relates the history of A. G., ætat. 44, and mother of five children. On being taken in labour with her sixth child, a midwife was called. While the patient was standing up, she was suddenly seized with vomiting and faintness, and, at the instant she was laid on the bed, she felt something give way in the abdomen. The condition of the woman becoming truly alarming, Professor Rossi was sent for, who, on a minute examination, declared that the uterus was ruptured. In a full consultation, the Cæsarean operation was decided to be clearly indicated in the present case. Two hours after the rupture, Professor Cecconi commenced the operation by an incision in the left side of the abdomen; the feet immediately presenting, a living child, together with the placenta, were then removed. In forty days, the patient entirely recovered. The catamenia re-appeared, and three years after, she was delivered of a living child.

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ART. XI. *The London Medical Repository and Review, for April* 1, 1826.

*French Clinical Surgery.*—M. Lisfranc has succeeded in obliterating the cavity of a fistula, seated in the calf of the leg, which had for nine months resisted the ordinary means of cure. His plan was simply to destroy the existing morbid action of the vessels, and substitute a new and healthy one along the whole tract of the fistula. This object was effected by the repeated injecting of chlorate of lime and a compressing bandage.

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*Extract of Belladonna in Ophthalmia.*—In three cases of ophthalmia where extreme intolerance to the rays of light existed, after premising the usual depletion, M. Lisfranc has effected its complete removal by means of frictions freely employed to the base of the eye, with extract of belladonna diluted with water.

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ART. XII. *The London Medical Repository and Review, for May,* 1, 1826.

*Cold Effusion in Croup.*—Cold effusion to the back and neck in the advanced stages of croup, has been successfully employed by Dr. Harden, of Petersburg, on his own child. A successful case is also related by professor Aberle, of Salzburg. In either instance the patient is represented as having been nearly moribund. This practice might be regarded as bold and unwarranted, yet when the usual remedies have failed, and dissolution appears inevitable, who would hesitate to recur to a plan that offers even a remote prospect of relief.

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*Diseases of Children.*—In Hufeland's Journal, for March 1825, is detailed an account of Dr. Goelis's practice in this department of medicine; as his views are somewhat peculiar, and his authority considered of the highest order, we shall briefly notice what appears valuable. Dr. G. regards two thirds of all infantile diseases as inaflammatory, hence stimulating remedies must be very cautiously employed.

In catarrhal and anginose affections, when it becomes necessary to examine the fauces, he places his finger upon the root of the tongue, which causes an effort to vomit, and completely exposes these parts to view. In purely spasmodic pertussis, Goelis prefers belladonna. He employs the root in union with opium, and condemns the use of ungt. tart. ant.

When the watery diarrhœa of children is preceded by pain in the abdomen, it is probable that a sub-inflammatory action is always present.

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*Purulent discharge from the Bladder.*—The patient, as reported by Dr. Crowther, in Edin. Med. Journ., Jan. 1826, voided with his urine a quantity of fetid *purulent matter*, equal to two or three ounces in twenty-four hours. That laxatives, diluents, demulcents, and anodynes, with the uva ursi, had, during two weeks, failed in giving relief, that a crystalline deposite was discovered in the urine, which readily disappeared on adding *boiling* water. This circumstance induced the reporter to employ injections of *tepid* water, and in one week a cure was effected.

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ART. XIII. *Notices from the German Medical Literature, communicated by* DR. G. VON DEM BUSCH, of Bremen; Member of the Medical Societies of Philadelphia and Stockholm.

THE third volume of Medical Treatises of a Society of Practical Physicians, at St. Petersburg, (vermischte Abhandlungen ous dem Gebiete der Heilkunde von einer Geselbschaft Practischen Aeryte zu St. Petersburg,) contains a very instructive treatise on the cholera morbus which appeared at Astrachan in the year 1823. Though the author, Dr. Seidlitz, proves that the epidemic of Astrachan agreed in respect to symptoms with the cholera morbus of the East Indies, he also shows that this epidemic was not imported from this country, but was the product of hitherto unknown influences of cosmic and telluric kind. That such influences exist, and are operative in the production of epidemics, the history of the time teaches us. To all great epidemics preceded uncommon revolutions of our globe; and the history of the day shows that such have occurred in the last years in many parts of our globe in greater abundance than formerly. We would only mention the frequency of earthquakes which have been perceived in regions in which they were hitherto unknown, the eruption of new volcanos, the great inundations with which not only a small part, but great tracts of the sea coast have been visited, the sudden swelling of the rivers, the vehement and great storms, &c. The city of Astrachan, built on low islands in the Wolga, seems also to have been affected by these universal shakes and revolutions of our earth and our atmosphere; the author assures us that the climate of this city has been altered essentially in the last years. In the autumn, and especially a short time before the appearance of the disease, a strange mist was observed in the town; from the month of April until August, great heat with dryness reigned, and then suddenly came on cold and wet weather. According to the assurance of the author, the disease was not contagious, and the conviction of its non-contagious nature was soon universal amongst the people. Blood-letting was tried in the beginning, but rarely succeeded, because the activity in the vascular system was, from the beginning of the disease, too much oppressed, and the skin in a cold and benumbed state. Calomel and opium were exhibited with more or less success. The author praises highly the exhibition of the warm bath mixed with brandy, frictions with flannel dipped in a spirituous infusion of red pepper, or aspersions with the spiritus salis ammoniaci caustici, and believes that the simple vapour bath would also be useful in cases of this kind.

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In Sweden, in the year 1824, the small-pox was epidemic. According to a report which has come to my hands, the physicians of that country have been fully convinced, during this epidemic, that vaccination is a preventive of small-pox, and that the few cases in which the disease appears after vaccination must be considered as exceptions to this general rule, and that in

such cases the small-pox is so much modified by it that it loses entirely its formidable character.

Another formidable disease with which the town of Stockholm was visited, in the spring and summer of 1824, was hydrophobia. From April to September were taken into the Seraphinen hospital ninety-six bitten persons. Of these seventy-eight were bitten by dogs, thirteen by cats, four by horses, and one by a hydrophobic boy. In the month of April two persons were bitten, in May twenty-nine, in June forty, in July eighteen, in August seven, and in September three. It could not be ascertained with certainty if all these persons had been bitten by true hydrophobic animals, but it was sure that more than the half of these animals had been hydrophobic, and that the remaining part were otherwise sick or at times irritated. The bitten parts were carefully scarified, and the patient closely watched. In many of the individuals were observed vesicles beneath the tongue, but these were not of the kind as Marochetti describes them. They contained, not as Marochetti says, a greenish fluid, but a crystalline and viscid pus. They were treated, however, according to the prescription of Marochetti, but nevertheless, in some of these persons, symptoms came on, which clearly proved that some of the hydrophobic poison was taken up by the system. Of all the highly praised preservatives against hydrophobia, not a single one was used. In all cases in which the symptoms of hydrophobia came on, the patients were immediately bled freely; daily frictions of half an ounce of the mercurial ointment; and calomel in order to produce, as soon as possible, a mercurial irritation, were made use of. This practice was attended with great success. The number of persons who died at Stockholm of confirmed hydrophobia was five, and all these had neglected to call in medical aid soon after the bite. In the province of Valencia, in Spain, a prophylactic is used against hydrophobia, which consists of a powder of equal parts of the erygium campestre, echium vulgare, alyssum spinosum, and melissa cretica, of which the bitten person takes daily a scruple.

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The efficacy of the cubebs in cases of gonorrhœa has been proved in the hospital of Stockholm It was tried in seventy-six cases, which were cured in from five to ten days. A light diet furthers the power of the remedy.

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In the Journal of Hufeland it is stated that the first who introduced the inoculation of the small-pox into Europe, was Immanuel Timonis, a Greek physician of Constantinople. He communicated this art, in the year 1713, to the universities of Oxford and Padua, of which he was, elected a member.

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In cases of violent night sweating, Dr. Schneider, of Fulda, recommends the ætheric oil of sage, (oleum æthereum salviæ). The sage has been recommended already by Van Sweiten* as an useful medicine in cases of this kind It was given by him in the form of a vinous infusion, twice daily, in doses of two tablespoon-fuls. The infusion, however, is extremely disagreeable. Dr. Schneider uses the ætheric oil, which has a very good and fragrant taste and smell. He gives eight drops with a sufficient quantity of fine powdered sugar, of which the patient takes every two or three hours a teaspoon-ful.

The same physician makes use of the croton oil externally, as a purgative. This mode of exhibition is very suitable to the cases of children who will not take medicine. He mixes four drops of croton oil with one ounce of oil of walnut; a part of this mixture is rubbed four times daily on the abdomen, especially over the region of the stomach. Every time after the use of this mixture, some evacuations would follow, and often also the evacuation of worms.

* Comment. t. II.

# ANALECTA.

1. *Conclusion of Dr. Oppenheim's Observations on the Present State of Medicine in Italy.*

(Continued from page 432, last volume.)

*The Papal Dominion.*—There are two medical schools in the dominions of the Pope, viz. one at Bologna, and one at Rome.

*Rome.*—The University at Rome is named "*Della Sapienza,*" and has fourteen medical professorships. This university has no museum whatsoever. The medical clinic is in the "*Ospedale di St. Spirito,*" where practical anatomy is also taught. The surgical clinic is in the hospital at "*St. Giacomo in Angustia.*" There is no institution for the instruction of accoucheurs. The internal arrangement of the Roman hospitals is so peculiar, that it deserves particular notice. They are altogether ecclesiastical institutions, formed according to the notions of churchmen, and destined to serve rather as asylums for the administration of spiritual consolation, than for the cure of diseases. Accordingly, the physicians and surgeons are persons but of secondary importance in a Roman hospital, while the priests and confessors enjoy the chief authority! They alone are the resident officers; to them the admission of a new patient is first communicated; and they administer the first remedies, confession and the sacrament. Chance must decide upon the remaining part of the cure; for after having taken care of the soul, they concern not themselves about the cure of the body! The hospitals are small, but, on the whole, rather clean. The bedsteads are generally made of iron, some with, and some without curtains. Some of these hospitals are situated in the most unhealthy parts of the city. They are nine in number, and altogether contain about 2000 beds In some there are separate wards for consumptive patients, for the opinion that consumption is contagious, is universal in Italy. In the lunatic asylum are 400 patients, on whom the whip and the chain are not spared! Some of the hospitals cannot be visited by strangers, except permission has been granted by the Pope, a favour of which his holiness seems to be very sparing. All the convalescents from the different hospitals are brought to that of the Holy Trinity, for the purpose of enjoying the benefit of a nutritious diet. Dr. Oppenheim finds fault with this arrangement; and we agree with him in thinking, that the convalescents might be well fed in the different hospitals, without going to the trouble of removing them to this general convalescent hospital, where, after all, they are only permitted to remain three days!

The diseases of every nation are necessarily much influenced by the customs and domestic habits of the people, and the nature of the climate. He who has not been an eye-witness of it, cannot form any idea of the uncleanliness prevalent in the South of Italy. The stranger, on his first arrival at Rome, is amazed at seeing whole groups of people, "*gruppi dei otiosi,*" consisting of fathers, mothers, children, and friends of the family, all employed in performing for each other, an office which we shall not name. Suffice it to say, they use their fingers for purposes elsewhere performed with combs!

This custom is so general, that it has, as a matter of course, occupied the pencil of the artist: and in the magnificent collection of pictures at Florence, is one in which Venus is seen thus elegantly employed on the head of Cupid! So much are the inhabitants accustomed to sleep two in one bed, that when two strangers arrive at a country inn and require two beds, their demand is considered unreasonable. The peasants of Rome and Naples look upon washing and cleansing the skin as quite unnecessary; and the upper ranks are not less negligent of the bath, than the ancient Romans were attached to its use. The great number of church holidays serves, indeed, in a certain degree, to keep the city from utter filth, for the streets through which the religious processions are to pass, must be previously swept.

In so warm a climate, this utter neglect of cleanliness necessarily produces an abundance of cutaneous complaints; and accordingly, the hospital "Della St. Maria," containing 400 beds, is insufficient for the accommodation of patients so afflicted. *Tinea capitis* is treated in this hospital in the following singular manner: The head is first smeared with butter, for the purpose of softening the scabs. When the scabs are removed, the head is shaved, and all the roots of the hair pulled out with a broad tweezers. The next step is to make forty or fifty incisions in the scalp with a razor. The free flow of blood from these incisions is favoured by making the child sneeze. The head is finally washed with cold water, and then rubbed with rancid oil. This *cutting* and *plucking* is repeated every four or five days, as fast as the hair begins to appear. This *cure*, which they commend for being *simple* and *radical*, lasts generally for six or eight months, and in obstinate cases for one or two years!

Vaccination is again much neglected under the present Pope, and, of course, small-pox is on the increase. There were about 70 small-pox patients in the hospital at the time of Dr. Oppenheim's visit. We shall not enter into the sources of the "*aria cativa*," which renders Rome so unhealthy, but merely remark, for the benefit of such of our readers as may intend to visit that city, that its influence is most severely felt during the months of June, July, August, and September. The miasma produces, besides common agues, a very fatal species of fever, which is termed the malignant ague. "The patient becomes at once weary and weak, complaining of heaviness of his limbs, heat of skin, dull headach, and confusion of ideas, &c. The looks are wild, the face oftener pale than red; and, even when it is flushed, a yellowish white tinge is perceptible near the angles of the mouth. The belly is often tender to the touch, and the right hypochondrium swollen. The patient is sometimes costive, but not unfrequently diarrhœa is present from the beginning. Enough has been related to place it beyond doubt, that this fever, at its commencement, is of a gastric character, and is attended with an inflammatory affection of the liver. After the above symptoms have continued for some time, the fit commences with a violent rigour, which is followed, in an inconceivably short space of time, with a general and excessive disturbance of the whole nervous system, picking the bed clothes; *subsultus tendinum*, the most violent delirium, and a low muttering sort of raving, succeed each other rapidly, and without any apparent regularity. In short, the disease at one moment wears the aspect of a fever attended with excitement, and at the next has all the characters of typhus in its latter stages; and these two forms alternating with each other, seem, if it were possible, combined in the same patient. After the fit the patient feels a greater degree of depression than before. Vomiting often comes on at the height, or towards the end of the paroxysm. The second fit commences five or six hours after the first; and the third begins after an intermission of about the same duration, unless, indeed, which not unfrequently happens, death has already closed the scene. *The third fit is always fatal!* Peruvian bark, exhibited in the largest possible doses, is the "*sacra ancora*," on which the Roman physicians place all their hopes. During the fit, blisters and sinapisms are ap-

plied to the extremities, while the head is assiduously cooled by means of cloths dipped in cold water. The instant the first fit has ceased, bark is given, and that with the greatest possible diligence, as they do not know the moment a second fit may commence. It is always a favourable symptom that the "patient bears the bark well, but it too often happens that the stomach immediately rejects it. When this is not the case, four or even six ounces of bark are exhibited in the course of the day. The second fit is then so much diminished in violence, that its accession causes but little disturbance, and the patient is saved. The progress of this disease is most rapid in strong, robust, and plethoric habits. Relapses also frequently occur. In 1825, the proportion of recoveries to deaths was as 85 to 15; in other years it has been as 80 to 20. All other remedies have proved ineffectual in this fatal disorder. Venesection, emetics, opium, &c. seemed only to hasten its fatal termination, so that the physicians now place no dependence upon any thing except bark, which is used in immense quantities at Rome. The quantity used in the Ospedale St. Spirito often amounts daily to 40 or 50 pounds."

The latter statement of our author, we cannot help observing, accords ill with his previous sweeping censure, concerning the inattention prevalent in the Roman hospitals, with regard to *the bodily complaints of the patients.*

Some successful trials had been made at Rome with the sulphate of quinine, both in this fatal, and in the common forms of ague. When there are symptoms of a deranged state of the alimentary canal, the Romans place no reliance on emetics, but cleanse the *primæ viæ* with one drop of croton oil, previously to exhibiting the bark.

The following rules are laid down by the Roman physicians, for strangers who remain at Rome during the sickly season:—They must get up at six o'clock, and, having made a light breakfast, on biscuits, coffee, &c. they may go about their business until after eleven. At one o'clock they dine, and ought to sleep for a few hours after dinner. It is reckoned dangerous to be out at noon, sunrise, or sunset. Two hours after sunset, a walk is recommended, after which a light supper may be taken. At twelve they ought to go to bed, and should sleep with but little bed-clothes. The windows of the bed-room should be kept shut during the night. Strangers are likewise recommended to indulge in cool drinks, and to be very abstemious with regard to wine, which ought to be diluted with water.

"*Phthisis* is not common at Rome, and its introduction has been attributed to the English! for it is universally believed to be contagious. When a consumptive patient dies, his clothes, furniture, and bed are always burned. There exists too a Papal Bull prohibiting the sale of such articles. Scrofula is not uncommon at Rome, and calculous complaints are of rather frequent occurrence. Professor Sisco, who has performed the operation of lithotomy on more than fifty patients, follows the method recommended by Cheselden, i. e. the lateral operation; his success has been considerable, and he objects, in strong language, to the recto-vesical operation of Vacca. The Roman surgeons boast of great success in strangulated hernia. *Sisco* never tries to heal the wound by the first intention, because he considers the cure by suppuration as the only radical one, as it produces a complete solidification of the parts, and thus prevents the necessity of afterwards wearing a truss.

Aneurisms are not common in Rome; their cure is generally attempted, according to Vansalva's method. The Roman surgeons *have hitherto never ventured to tie the artery in this disease, but always proceed at once to amputation, when Vansalva's method fails!* and yet Rome is scarcely three days journey from the residence of Scarpa!

In Syphilis, mercury is now used both externally and internally. *Buboes* are never permitted to burst spontaneously; they are always opened with the lancet.

The doctrine of contra-stimulus has fewer advocates in Rome, than in any other Italian city.

*Bologna* has 60,000 inhabitants, an university, two civil hospitals, an orphan house, and a work house. *Spedali della Vita* contains about 500 beds. The wards are spacious, well ventilated, and clean. Professors Comelli and Tommasini superintend the medical clinic, and Professor Venturoli the surgical. It is unnecessary for me to detail the medical practice in vogue here, as it is generally known, and the doctrines of contra-stimulus are already sufficiently familiar to the medical world, through the medium of a journal published in Bologna, under the title, "*Giornali della nuova Dottrina Medica Italiana.*" Without discussing the merits or demerits of this doctrine, I may, however, remark that the very large doses of medicines which its advocates are in the habit of exhibiting, have universally the effect of rendering the system so difficult to be acted on, that the doses must be constantly increased, in order to produce any effects. Thus I saw a man under treatment for abdominal disease, on whose bowels half a drachm of jalap and four ounces of castor oil, had not the least effect until their action was assisted by a purgative enema! We pass by the other hospitals, as affording nothing worthy of remark, except that their internal economy seems better regulated, than that of other Italian hospitals.

The university reckons about 600 students. It is large and beautifully built, and contains not only a good museum of natural history, but a tolerable anatomical collection. The preparations with which it has been enriched by the present Professor of Anatomy, Mandini, are very fine, as are also those made by Professor Quadri, who formerly taught here, but now resides at Naples. In the wax works, I was much struck by the beauty of the pieces representing the muscles; they are the works of Lelli and Madame Penarolini. The library contains about 150,000 volumes. The librarian, Professor Mezzofanti, is distinguished in the literary world by his uncommon talent for languages. The Botanical Garden is the best I saw in Italy.*

*The kingdom of Naples.*—A glance at the state of general literature in Naples, will best explain the state of medical science in that city. All foreign books, even those which have received the sanction of the Roman censors, are subjected to the revision of the Neapolitan censors. If, after a scrupulous examination, nothing is detected unfavourable to the king or church, the publication of the book is permitted, and a tax of four carolines on each volume must be paid by the publisher. This sum is exorbitant, when we consider the cheapness of Italian books. So heavy a tax is likewise imposed on public prints, that it amounts to a prohibition of all foreign journals. These regulations render the advancement of science so slow in Naples, that what has long since become obsolete in other countries, is there considered as a literary novelty. The Neapolitan physicians find it, therefore, impossible to keep up with the modern improvemenis in medicine, and consequently their practice is formed on antiquated models. Luckily for the inhabitants, the climate is so mild, that they seldom stand in need of medical aid, and may, in general, leave their complaints to the cure of the *vis medicatrix Naturæ*. Little can be expected from an university in such a country, even though it boasts of such men as Vulpes, Quadri, and Lanza. The hospital accommodation too, at Naples, is quite disproportioned to the number of the inhabitants, which amounts to 450,000.

Dr. Oppenheim then proceeds, at some length, to describe the Lunatic Asylum at Aversa, a little town, situated eight miles from Naples, on the road to Capua. This institution excels, indeed, all others in Italy, but still falls far short of similar institutions in England and Germany. The only pe-

* Over the door of the Botanical Garden at Pisa was formerly inscribed, "*Hic Argus, sed non Briarcus esto.*"

culiarity we think worth relating, arises from the habits and genius of the Neapolitan people. In English mad houses, much reliance is placed in affording means of employing or amusing the convalescents. With this view, we provide the lower classes with the means of following their ordinary trades and occupations, while we offer to the rich the recreation of cultivating a garden, or reading in a library. At Aversa, what are the objects of amusement? Billiard tables, music, various petty national games, puppet-shows of all descriptions, and a variety of toys!!

We would almost believe its inmates to be boys, not men. But men, it seems, they are, at least in Naples, where even the upper classes spend the whole day in the coffee-houses, or at the theatre, while the lower orders visit the puppet-show at seven o'clock in the morning, after which they dance the "*Tarantala*," and play the *Morra*. This systematic trifling and habitual idleness afford a sufficient excuse for the indignation of the priest described in Kelly's Memoirs, who, having dispersed a crowd of Lazaroni assembled around a puppet-show, held up the crucifix, with which he had dealt his blows, and cried, "Ecco il vero Polcinello,"—an exclamation which at first appears ridiculous, if not impious, but really conveys a most degrading idea of the people whom he addressed.

The *Lombard State* forms, at present, a province of Austria, and the constitution of the two universities it possesses, is modelled entirely according to the plan of that of Vienna. A certain course of study, which lasts for five years, is laid down, and no deviation from this plan is permitted. The disadvantages of a restrictive plan of study, which assimilates an university to a great school, are too obvious to require comment; and we cannot, therefore, help regretting, with Dr. O., that it should have been lately introduced into France. Our regret is increased by observing, that this plan does not include a branch of medical study, to which we owe our chief progress in anatomy and physiology, and to whose aid we are to look for important additions to pathology; we mean comparative anatomy. When, says Dr. O., we find so important an omission, we must indulge in gloomy anticipations concerning the future progress of science in a state, which was formerly so distinguished in comparative anatomy, and produced such men as Spallanzani, Valsalva, Lancisi, &c.

*Padua*, a town with 20,000 inhabitants, has one spacious hospital capable of holding 300 patients. The wards are clean and well ventilated, and the beds are placed at a sufficient distance from each other. The clinical wards contain 24 beds. The medical department is superintended by Professor Brera; the surgical by Professor Ruggieri. The university reckons about 700 students. The building is very beautiful, and originally a palace, planned by Palladio. The cabinet of natural history is tolerable. Fabricius ab Aquapendente, Proper Alpinus, Morgagni, and other celebrated men, once ornamented this school. Brera, the present Professor of the practice of physic, is a zealous advocate of the system of contra-stimulus, and, of course, propagates this doctrine among his pupils. It has, however, found fewer advocates among the private practitioners at Padua, than among those at Bologna.

*Pavia* has 22,000 inhabitants. The Town Hospital is well situated and very roomy, and contains 400 beds. It is better calculated for the purposes of an hospital than any other institution in Italy, having been originally built for the accommodation of the sick, and not, like the rest, for a monastery or a palace. There are four clinical wards, viz. one for medicine, one for surgery, one for diseases of the eye, and one, (as the Catalogue has it,) "per la istruzione di maestri in chirurgia e flebotomia." Connected with the hospital, is a small institution for lying-in women.

The university is attended by about 400 students.

The building is large and the architecture fine. No university in Italy can boast of such rich cabinets of natural philosophy, chemistry, natural his-

tory, and anatomy. The latter, commenced by Rezia, received many valuable additions from the celebrated Scarpa, lately a Professor at Pavia. Burserius, Tissot, and the two Franks, formerly taught at Pavia.

*Tabular View of the Medical Sciences taught at the chief Italian Universities, and of the Professors by whom they are taught.**

| | *Genoa.* | *Pisa.* | *Rome.* | *Bologna.* | *Padua.* | *Pavia.* |
|---|---|---|---|---|---|---|
| Anatomy | Mozzini | Catellachi | Lupi | Mandini | Caldani | Panizza |
| Physiology | Do. | D. | Bomba | Medici | Gallini | Rusconi |
| Therapia Generalis | Batto | Morelli | Cetti | | Giaccomini | |
| ——— Specialis | Do. | — | Valentini | Tommasini | Brera | Chiappa |
| Materia Medica | Mongiardini | Bianchi | | | Della Decima | |
| Medicina Forensis | Do. | | Falconi | | Fanzago | Salvadori |
| Surgery | Garibaldi | Vacca-Berlinghieri | Trasmondi | Venturali | Ruggieri | Borda |
| Clinical Medicine | G. Scassi | Morelli | Matheis | Tommasini | Brera | Hildenbrand |
| ——— Surgery | Giudetti | | Sisco | Venturoli | Dall' Oste | Cairoli |
| Botany | — | Savi | Donarelli | Bertoloni | Bonato | Rocca |
| Chemistry | — | Bianchi | Morecchini | Salvigni | Melandri | Manabelli |
| Natural History | — | Savi Junr. | — | Ranzani | Renieri | Mangili |
| ——— Philosophy | — | Lichi | Barlocci | — | — | Configliachi |
| Institutes of Medicine | — | Barzelatti | — | — | — | |
| ——— Surgery | — | | — | — | Fabini | Cairioli |
| Pathology | — | Studiani | Fulchi | Ordonari | Della Decima | Chiappa |
| Midwifery | — | | Asdrubali | | Lamprecht | Bongiovanni |

* We have made some alterations on Dr. Oppenheim's List, upon the authority of a medical friend, lately returned from a residence of some time in Italy.—EDITOR.

*Edin. Med. and Surg. Journ., April,* 1826.

2. *Observations on Cataract.**—That morbid change in the organ of sight, which consists in opacity of the crystalline lens or its capsule, and to which the name of cataract has been applied, belongs, both by its situation and by the causes which give rise to it, to the class of internal disorders. The remarkable want of success, which has hitherto attended all attempts to remove it by medical treatment, has, however, universally transferred the management of it to the hands of the surgeon. It must be acknowledged, that the operations for the cure of this affection have, of late, attained a high degree of perfection, and that a proportionate number of striking cures has been the result. It could be wished, notwithstanding, that a combined practice might be directed against this malady, which frequently becomes the cause of one of the most trying infirmities of age, and occasionally is met with in the earliest periods of life.

The author, in treating epilepsy and mania by cauterization of the head, had had occasion to notice a remarkable improvement in amaurosis and cataract, in cases in which they happened to co-exist with the affection, which formed the principal object of attention. The observation appeared perfectly admissible, for there is no more difficulty in conceiving the removal of the physical cause of amaurosis or cataract, than that of mania or epilepsy.

The result of the author's experience with respect to amaurosis, was laid before the Institute in a former paper, and the attention which that received encouraged him in the prosecution of the researches detailed in the communication now before us.

In seeking to apply to cataract the treatment which he had adopted in chronic affections of the head, and in gutta serena, Dr. Gondret soon found that his facilities for experiment were much less considerable. The cases of amaurosis which presented themselves were numerous, because this affection is frequently abandoned as hopeless, but operation being the generally received method of treatment in cataract, it was not till after long waiting, that a few almost accidental opportunities occurred for the trial of a practice, which he conceived equally applicable to this, as to other affections of the eyes or brain.

He carefully noticed the facts as they occurred, and waited until he had accumulated a number of analogous results, before he considered himself warranted in drawing any thing like a general conclusion.

The seat of the derangement was particularly favourable to these researches. The existence of cataract becomes obvious long before it has arrived at an advanced stage, and it is well known, that surgeons generally wait to perform the operation for its cure, until the opacity of the lens and loss of vision are complete. Other internal affections are materially different. A direct examination cannot be made, and the diagnosis is necessarily less positive, being rather the result of induction than of the immediate evidence of the senses.

As a guard against the possibility of his too hasty admission of facts in support of his own views, Dr. Gondret made his observations in conjunction with several of his enlightened professional brethren, who would not have failed to warn him, had he been falling into error.

He took particular care not to be misled, by mistaking an apparent for a real cure, as is often unavoidably the case, where the practitioner too soon loses sight of his patient. He saw the necessity of continuing the observations as long as possible, and did so for months, and even years.

1*st Case.*—M. Pepin, aged 59, of a good constitution, but of rather a nervous temperament.

After a forced march, in the year 1816, he was attacked with severe fever, accompanied by intense headache and delirium, and followed by a general

* Being the subject of a paper read to the French Institute, by L. F. Gondret, M. D.

swelling of the limbs. During his convalescence, he perceived, for the first time, a black speck, which seemed to dance between his right eye and the objects which he looked at. Six months after, a cloudiness, the precursor of cataract, presented itself in the left eye. In the winter of 1819-20, he experienced, during the space of a month, the most exquisite pain in the right temple: this was succeeded by inflammation of the left eye, which was relieved by leeches. In January, 1822, the pains in the right temple returned with great severity, but ceased by the use of an opiate pill. In April, Pepin consulted Dr. Gondret. At this time, he could see nothing with the left eye, in which the cataract had now existed four years. A gray spot in the centre of the crystalline lens indicated the commencement of cataract in the right eye also. He was unable to read, for more than a short time, without fatigue. The floating spots which he perceived with the right eye were become more numerous, the pupils were rather dilated, and the irides almost fixed.

Dr. G. considers, that the malady with which Pepin had been attacked six years previously, as already mentioned, was the principal cause of the derangement of the visual organs:—that the brain, in the first instance, becoming affected, an extension took place, producing—

1st. Numerous filaments, and approach to opacity of the crystalline, with feebleness of vision in the right eye.

2d. Complete cataract of the left eye.

3d. Pains in the right temple.

4th. Inflammation of the right eye.

Continued application at the desk had, doubtless, favoured the progress of the complaint.

Guided by experience of the excellent effects of a local treatment in some of the several affections of the brain, even when congenital, Dr. G. was induced to propose to his patient cauterization of the sinciput, as offering the most favourable chance of relief. He hoped to arrest the progress of the cataract in the right eye, and to render the parts more susceptible to the influence of other agents which, whether local or general, might favour the restoration of the organ to its natural state.

On the 4th of April, the cauterization was performed with ammoniacal pomade.

On the 22d of May, the cloud which had seemed to cover the right crystalline was become less apparent, vision was a little improved, but filaments still remained. An electric current, produced by a voltaic trough of thirty plates, was passed between the right supra-orbital nerve and the right eye. An immediate, but momentary, improvement of sight was the consequence; the nerves, however, continued to feel the shock till the following day.

June 1st. The right eye was perfectly clear, and vision increasingly strong.

July. The cloudiness of the right crystalline was returning, and vision was a little more obscure. The ulceration at the sinciput was merely superficial, and was reduced to scarcely the third of an inch in diameter. It was then extended and made deeper by another application of the pomade.

August. No opacity of the right crystalline. The sight continues constantly good. The cataract in the left eye had changed from a dead white to a gray colour.

June, 1823. The right eye is in its natural state, and vision is good. The left crystalline approaches more nearly to a grayish black, but that eye merely perceives the presence of light.

August, 1825. The cure is permanent with respect to the right eye. The cataract in the left is scarcely visible, but vision on that side has made no progress.

*2d Case.* John James Henriot, aged 71, affected with cataract in both

eyes, the sight of the left eye gone; the cataract in the right less advanced, but very obvious; the sight of this eye sensibly impaired for several months.

October, 1822. The sinciput was cauterized with a red hot copper instrument, the patient having chosen the most painful, but at the same time the most expeditious method.

The sore was kept open four months, during which time an ammoniacal collyrium and galvanism were also employed: the bowels were kept open, as far as possible, by regimen, but when this failed, laxatives were made use of

The opacity of the right crystalline gradually disappeared, and the sight of that eye became completely restored. The opacity of the left lens diminished, and there was some return of sight, but the improvement on this side was not permanent.

August, 1825. The patient has had no return of cataract in the right eye, with which he continues to see well.

*3d Case.* The Countess of Monchenue, aged 80, had impaired sight in common with other infirmities attendant on her advanced period of life. On the 11th January, 1823, on waking she discovered that she was blind; in the course of the day there was some return of sight in the right eye, but none in the left.

On the 27th this lady consulted Dr. G. who found the conjunctiva and cornea dull in both eyes. The pupils were very much contracted, and there appeared to be some lenticular opacity. She could see only with the right eye, and that but at a very short distance. She could neither read nor write, distinguished colours but in a very confused manner, and imagined that she saw variegated flowers on a gown which was perfectly white. An oculist, whom she had consulted, recommended an operation, when the right eye should have become opaque as well as the left.

Dr. G. did not consider this case either complete cataract or amaurosis, but believed that the derangement was more general, each part of the organ bearing its share.

The case was recent, and not attributed either to apoplexy or cerebral plethora, both of which affections Dr. G. regards as leading to morbid changes in the eye, which, even when acute, are extremely difficult of cure.

The Countess readily consented to cauterization, which was effected by means of the ammoniacal pomade.

This constituted the principal part of the treatment, but other means were also had recourse to. Cupping-glasses were moderately applied to the neck: an ammoniacal collyrium and galvanism were made use of, and some laxative medicines given. This plan was followed up for four or five months.

After the first month, sight was restored in the left eye and improved in the right. The dulness of the conjunctiva, cornea, and anterior chamber, had disappeared from both eyes, and they had resumed a certain degree of brightness.

Towards the close of the treatment, vision was so far restored that the patient could discover the colours of objects, and could even read and write.

At the time the author was writing, this state of sight had continued for two years, although, as is worthy of remark, the other faculties had, in the mean time, been materially declining

In this case there appears to have been imperfect cataract, complicated with opacity of the membranes, situated in the anterior of the globe, and with an impaired state of the nerves of the eye.

*4th Case.* Mrs. M. having large eyes and myopism from her infancy, had been for six months affected with amaurosis, which came on after measles, which she had when about six months advanced in pregnancy. Three months after delivery, she consulted Dr. G. who, at the time, observed no apparent organic change. The right eye was rather larger and more pro-

minent than the left. The pupils were perfectly mobile. This patient had always been subject to ophthalmia. She was unable either to read or write, and being myopic, could not easily direct her steps. Cauterization of the sinciput, cupping, the ammoniacal collyrium, and electricity restored the sight of both eyes, though less completely that of the left, which had long been weaker than the right. Mrs. M. seemed, for some time, to have even stronger sight than she had ever before possessed. As the lady had again become pregnant, Dr. G. thought it expedient not to continue the treatment longer than four or five months. In the spring of 1822, she set out for Switzerland, where she intended to be confined. The improved state of sight continued, though with occasional relapses, which were quickly relieved by the ammoniated collyrium and electricity. A short time after her accouchement, by exposing herself to wet and cold, she brought on ophthalmia, and vision was again impaired. A month after, she returned to Paris, and at that time was unable to see with the left eye, in which there was an obvious cataract; there was no trace of the kind in the right, though vision was much impaired on that side also.

Two months later, the treatment at first employed was again had recourse to—the sight of the right eye was restored, and this improvement has now continued permanent for two years, but, on the left, the cataract remains, and there is no return of vision.

The cataract was probably the result of the inflammation set up in the eye, but the patient's absence in Switzerland prevented Dr. G. from observing the relation which these two affections bore to each other. In less than two months the opacity of the crystalline and blindness were complete, and a course of treatment, persisted in for two years, effected no sensible change in that eye.

This case forms a striking contrast with some of the others which are related, particularly with that of Pepin.—In him, vision was deteriorated in the left eye, nearly three years before cataract commenced. Under the course of treatment, the lens changed its distinct white for an almost invisible gray; yet, the restoration of sight was confined to the mere perception of light, doubtless on account of the irremediable nature of the older affection.

Nearly a similar instance occurred in the case of M. Delcros. The patient had injured his eyes by application to books. His sight, already poor, became considerably weaker, in consequence of attacks of inflammation affecting the head and eyes. Symptoms of amaurosis and cataract led to the adoption of the mode of treatment employed in the former cases. The cautery of the sinciput produced a temporary diminution of the opacity of the crystalline; but the malady again resumed its progress, and blindness became complete.—*Medico-Chirurgical Review.*

3. *Improvement in the Gaumennath Operation, or Staphyloraphy.*—The two difficult points in this operation are, first, the slicing off the edges of the divided palate; secondly, the introduction of the sutures; and, thirdly, the difficulty of making the ligatures sufficiently secure when introduced. In the February Number of Heckus *Annalen*, Dr. Dieffenback has given a description of some instruments which tend to lessen very much these difficulties. For the more ready excision of the edges, he proposes that a somewhat curved forceps should be used with their narrow blades the length of the usual division of the palate, and turned at nearly right angles with the arms of the instrument. With this forceps the edge of the palate is so taken hold of, and held sufficiently firm to allow of the slicing off of the edge of the palate projecting beyond the blades of the forceps, which is then to be carried a little farther back, and used as a compress to suppress the hæmorrhage during the introduction of the needles. These *needles* are only seven lines long, from the point to their middle a little curved and cutting on their edges, with their concave surface flat. The other half of the

needle is perfectly round and hollow, into which extremity is worked a fine mother-screw. The ligature is made of *fine lead wire*, corresponding to the size of the round extremity of the needle, and capable of being worked into the screw contained in it. The advantages afforded by the use of this material for ligature are several; it allows of being tightened or loosened at pleasure, it allows of time during the operation of examining the mouth without becoming soft and almost unmanageable as the common ligature is when wetted, for with a scissors the end of the lead ligature may be cut off near the palate, the end twisted toward the roof of the mouth, and allowed to remain without inconvenience for a short time. The ends of the ligature are twisted slowly together after the approximation of the velum, and thus make the parts firm and secure. If, from a high degree of inflammation supervening, the swelling should be such as to require the ligatures to be loosened a little, it can be easily done, by untwisting the ends of the lead wire partially. The chance of success is, with this apparatus, greatly increased.

An instrument has lately been invented by Dr. Dieffenbach, of Berlin, for the division of strictures from within the urethra, which cuts from behind forwards. It is a concealed knife, having three blades enclosed in a small cylinder, and separated by touching a spring left in the handle. The cylinder containing the cutting instrument is passed through another and graduated catheter to the stricture, it is then pushed forwards through the stricture, and when the extremity reaches beyond it, the blades are opened, and the stricture divided as the small cylinder is withdrawn toward the lower orifice of the greater, and then the blades are again shut. Dr. D. says that it is a quick, safe, and effectual manner of curing old strictures, when gradual pressure is afterwards employed.—*Ibid.*

4. *Case of Wound in the Lungs.**—A marine of a plethoric habit, was severely wounded in the chest, by a cannister shot. When seen the day after, he was found sitting on a pallet, the head bent forwards, mouth open, and gasping for breath, face swollen and much flushed, and the pulse full and bounding. Two pints of blood were drawn, which enabled him to speak and breathe more freely. On examination the shot was found to have passed through the right breast below the nipple, and to project in the back through a wound it had made under the right scapula. When extracted, a large quantity of frothy blood issued out, and a lighted candle, held to the wound, was instantly extinguished. The wound was cleaned and dressed, and the patient laid on his back, after which he discharged by the mouth, a large quantity of frothy blood and mucus from the lungs. In an hour, venesection ad ℔ j, cool subacid drinks and sulphate of magnesia, with strict abstinence, were employed. He took four times a day, *t. digital. gtt.* x. acid sulph. dilut. gtt. xv. liq. plumb. acetat. gtt. iij. aq. font. ℥i. ♏ ft. haust and lost, in all, by bleeding, eight pounds of blood, which relieved the constitutional and local irritation so much, that he could lie down with ease, and breathe comparatively freely. His bowels were opened by the salts, and he took the following anodyne; ℞. Tinct. op. gtt. xxx. vin. antim. ʒi. spt. æth. nitros. ʒi. aq. ℥i. ♏. ft. haust.

He spent a pretty tranquil night, but towards morning he had an increase of the fever, hæmoptysis and dyspnœa, which were dissipated by venesection ad ℔i. Treatment as before. During the day he had two attacks, which were each relieved by the abstraction of a pound of blood. Anodyne at night.

Third day: much better. From this time he continued to improve daily, and required no further bleeding. The bowels were kept open; the circu-

* Related by James Mitchell, Surgeon, Royal Navy, Wooler. Ed. Journal, April, 1826.

lation restrained by sedatives and abstinence, and in five weeks he was completely cured, having only a little difficulty of breathing on walking quickly or up an ascent.

*Remarks.*—This man had a very fortunate escape, almost as fortunate as Mr. Maiden's patient, who recovered after the shaft of a gig had passed through the lungs, and pinned him to the wall.—*Ibid.*

5. *Disease of the Stomach.*—In another part of this Journal we have given some interesting observations and cases of gastralgia by M. Barras, showing how nervous affections of the stomach may sometimes be mistaken for inflammatory or organic diseases of that viscus, to the great detriment of the patient. The case which we are about to relate will set, in a striking point of view, the difficulties with which the medical practitioner is beset; and how liable he is, in avoiding Scylla, to run into Charybdis Of the two errors, it is certainly better to mistake gastralgia for gastritis than the reverse. In the *former* case, the penalty is generally only a protraction of the cure, and a needless quantum of suffering; in the *latter*, the consequences may be fatal. It is only by a careful record and observation of facts that we can hope to avoid both errors.

*Case by M. Bourgeois.*—(Journal General, January, 1826.) In the beginning of the year 1817, a gentleman, (M. P.) aged 45, of high complexion, and inclining to corpulency, consulted our author for a slight gastralgia, which was generally felt after eating, accompanied by a sense of fulness, eructations, discharges of wind, and also a considerable flow of clear saliva, especially in the mornings. He also complained of pain over the orbits, loss of appetite, bitter taste in the mouth. The tongue was coated, and there was a yellowish tint, very slight, about the alæ nasi and commissures of the lips. A similar train of symptoms, the patient stated, had occurred several times during the preceding years, at first very slight, and fugitive, afterwards more troublesome, and of longer duration. He traced the commencement and the cause of the complaint, to the period of trouble when the allies entered France, at which time he suffered great anxiety of mind. These attacks had generally given way to emetics, and the same remedy was at this time employed, but with only a very temporary good effect M Bourgeois, therefore, recommended abstinence, milk diet, leeches to the epigastrium and anus. These means procured a gradual and slow amelioration of the symptoms, and the patient was able to attend to his affairs. But the least error in regimen renewed all his sufferings, and the patient began to tire of the plan of rigid diet and lowering means recommended by his physician. A consultation was called, and the new physician looked upon the disease as gastralgic or nervous, and, therefore, reversed the treatment, giving opiates, bitters, rhubarb and magnesia, and the waters of Vichy. These means were continued for some weeks, but evidently with an aggravation of the complaint. The patient now began sensibly to emaciate, and he complained greatly of a heavy knawing pain between the shoulder blades. The epigastrium was now tender on pressure, the bowels constipated, and there were distressing colicky pains. The patient was completely hypochondriacal, and excessively irritable.

The new plan of treatment was, in its turn, abandoned, and the patient determined to throw himself into the hands of empirics. Our author was, of course, dismissed, and did not meet with the patient for six months afterwards. The meeting then was accidental. M. Bourgeois perceived that the emaciation had considerably advanced, that the complexion was more plombeau, the eyes hollower, the features much more altered. Still, the patient was not laid up, and he evidently dissembled his real feelings, partly perhaps, from shame at being in the hands of quacks. A time, however, arrived, when the unhappy patient could no longer disguise his situation. In the beginning of January, 1818, he again sent for M. Bourgeois, in the middle of the night, and was found by him, pale, emaciated, scarcely able to

make himself understood, and apparently ready to be suffocated. His countenance expressed the greatest fear and anxiety, the pulse was small and intermitting. He took M. Bourgeois's hand, and carried it to the epigastrium, where, to the physician's astonishment, there was a solid tumour the size of a child's head, pulsating synchronously with the heart! While examining this tumour, a paroxysm of vomiting came on, and some slimy mucus was thrown up. This sickness, he was informed, took place whenever any thing was received into the stomach, whether liquid or solid. In short, it was abundantly evident that there was a scirrhus of the stomach, of a fatal kind. It is, therefore, needless to dwell on the means that were used, two only of which ever gave even temporary relief. These were leeches to the epigastrium, and laudanum thrown up by injections. Emaciation was at length carried to the utmost degree, and almost every part of the body was sympathetically affected by this dreadful malady. There was a constant dry cough, and the mental functions were greatly disturbed. Nature, assisted by art, withstood this terrible trial for forty-seven days after M. Bourgeois's second summons to this unfortunate gentleman, when death put an end to his sufferings and miserable existence, without a groan or a struggle.

*Dissection.*—When the abdominal cavity was laid open, the tumour, which was easily recognized to be the stomach, was found immoveable, in consequence of intimate adhesions with all the neighbouring parts. It was carefully isolated and removed from the body. It was the size of a large melon, hard, and weighed five pounds French. The scalpel could hardly penetrate it. It was of a fibro-lardaceous nature, and quite homogeneous in appearance. It occupied, or rather consisted of, the coats of the stomach thus changed in structure. The cavity of the organ was very small, and the lining membrane was every where pale, or streaked with granulations. There was about an eighth part of the viscus, towards the superior portion, which was not involved in the scirrhous disorganization. The pyloric orifice was entirely lost in the mass of disease, and could not be recognized. The greater part of the duodenum, and the whole of the pancreas were involved in the ruin. There was nothing worthy of remark observable in any other part of the body. The thoracic organs were perfectly sound, though their functions had been so much disturbed by the gastric disease.

M. Bourgeois makes many sensible observations on this deplorable malady, which, he thinks, is much more common in our days than formerly. This is not improbable, on many accounts, but chiefly in consequence of the progress of luxury, and the increased cultivation of the mind at the expense of the body. The case which has been detailed, combines in itself most of the prominent or essential characters of this fatal disease. Among these, the slow and insidious march of the malady is the most conspicuous. A slight derangement of function in the stomach, with a trifling malaise, rather than pain, marked by a sense of fulness, weight, and constriction, principally during digestion, were prelusive of tongue furred in the middle and red at the edges and point, inappetence, disposition to nausea, acid or nidorous eructations, distressing flatulence. Such are the primitive symptoms; and it must be confessed that these are common to many affections of the stomach which have nothing of a malignant, nor even of an inflammatory nature about them, such as the common cases of indigestion or loss of tone in the stomach, from sedentary occupations, literary studies, anxieties of mind, and a hundred other causes.

According to our author's experience, the least equivocal symptoms of the serious malady now under consideration, are darting or lancinating pains, vomiting, a voracious craving for food (which he regards as a mode of pain peculiar to the stomach), and a sensation of faintness. The last mentioned symptom is an indication that the vital force is concentrated towards the disordered organ. Epigastric pulsation is also considered as a bad sign, but every man of experience must have seen this in numerous cases where no

serious malady was in existence at the time.—We consider these pulsations as very far from being "les signes precurseurs de la tumeur pathognomonique." —He thinks, and with great probability, that when the posterior portion of the stomach becomes first the seat of disease, it eludes investigation for some time, on account of the depth at which it is situated. In many cases, however, the symptoms of gastric scirrhus are so uncertain, that the disease arrives at a monstrous, or even fatal height, without being recognized by the medical attendants; witness the memorable case of Napoleon Buonaparte. Still, we think an attentive observation of the phenomena, and especially of the effects of remedies, and the juvantia and lædentia, will enable us, in most instances, to distinguish cases of gastritis from those of mere gastralgia. We refer to the paper on the latter subject for illustration. In respect to the case just now related, we are very far from agreeing with our author, that the disease was owing merely to chronic inflammation of the stomach. It was clearly a specific disease, in all probability, inherent in the constitution, and which no system of regimen could have prevented, no plan of treatment cured. We do not, by this, mean to assert that a certain treatment (for instance, of stimulation) might not aggravate a scirrhous affection of the stomach or any other part, since irritation and inflammation must be ingredients in the morbid process going forward in this terrible disease. What we mean to say is this, that the stimulating treatment was not the cause of this patient's death, nor would all the leeches in Paris have saved his life, though they might probably have prolonged it.

M. Bourgeois, in adverting to the causes which have increased the prevalence of this disease in our days, accuses, among other things, the immoderate use of coffee—"whose *irritating* action on the sensorium is so marked, that it has obtained the title of *intellectual drink*" We should be disinclined to accuse coffee of such a crime as that of producing cancer of the stomach, neither are we convinced of its *irritating* action on the sensorium, although, like strong tea, it has the effect of preventing sleep in most individuals. We do not conceive that irritation and *excitation* are perfectly synonymous in a physiological sense. The mildest food *excites* the stomach, and through that several other organs in the body, but are we justified in saying it *irritates* the stomach? The same may be said of coffee.—*Ibid.*

6. Experiments on the secretion of bile, performed by tying the vessels which carry both kinds of blood to the liver and excretory ducts, either simultaneously or in succession; in order to determine whether the bile is secreted from the arterial branches or from those of the vena portæ, pigeons were the subjects employed on this occasion.

1st. *Ligature of the Excretory Vessels.* The bile not being able to be evacuated the liver swells, is distended with globules of a bright green, which colour extends itself over the surface of the liver and contiguous parts, more distinct in proportion to the age of the animal, and the time he outlives the operation. In ten or twenty hours the animal evacuates matter absolutely green, of the colour of the bile in the liver, this goes on increasing in intensity until the animal dies; it was found that the green matter producing it existed only in the cloaca. This fact, together with the observations of Prevost and Dumas, who increased the biliary secretion by interrupting that of the urine, demonstrates that the liver and kidneys assist each other more or less perfectly respecting the excretion of their respective products when it cannot take place by the natural channel.

2d. *Ligature of the Excretory Duct and Hepatic Artery.*—At the end of twelve hours the surface of the liver and neighbouring parts presented the same appearances as above; the canals were filled and announced the presence of bile. Twenty hours after the ligature the liver contained a great quantity of green granulations, more numerous on the left than on the right side; the cloaca contained green matter as in the last experiment. If the animal live forty hours the colour becomes deeper in the liver and excre-

ments; this experiment appears to prove that the secretion of bile goes on fora long time after the liver has been deprived of arterial blood.

3d. *Ligature of the Hepatic Artery alone.*—In this case the liver does not become engorged: After death it is found that the secretion of bile has continued as it is found in the ducts and excrements.

4th. *Ligature of the Roots of the Venæ Portæ and of the Excretory Ducts.*—The liver is now directly deprived of its colour, and has only a pale rose-red tint, analagous to that of this bird's lungs; no trace of bile is to be met with; the intestines contain a gray or whitish pulp, the cloaca full of excrement without the least trace of green, notwithstanding many pigeons have lived in this state for thirty-six hours. If the principal trunk of the venæ portæ be tied so as to permit the gastro-hepatic veins to enter; the right lobe which receives them is, at the end of fourteen hours, in its natural state, whilst the left lobe is without colour, and presents, on its outside, merely a few traces of bile. The following inductions are derived from these experiments: 1st. That the ligature of the hepatic artery does not impede the secretion of bile. 2d. That the presence of bile becomes manifest when the excretory ducts are tied. 3d. That the blood of the venæ portæ is that which furnishes the elements of bile, since by tying those vessels the secretion is arrested.—(*Annali Universali, Decem.*)

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Extirpation of the alveolar arches of the lower and upper jaw, has been successfully performed by Dr. George Regnoli, of Forli. The case was that of a woman named Frances Rorinella, ætat. 35 years, had suffered from infancy violent pains in the teeth; the first set became carious, and falling out in separate pieces, were succeeded by the second dentition; these soon became diseased; was also subject to erysipelas of the head and neck; about November, 1824, she was seized with a violent pain in the head, no remedy taken; at this time, while labouring under pain, tumefaction, and redness of the gums, caries of the teeth, and alveoli, she discovered a tumour opposite the last molar tooth of the right side in the lower jaw, this increased and ulcerated so as to occupy the whole alveolar process, except where the last molar tooth of the left side was situated: Two months after a similar fungus appeared on the corresponding part of the upper jaw on the right side, this spread with great rapidity, involving the whole of the teeth.

On inspection, Dr. R. perceived that both the alveolar arches were enormously enlarged, a reddish bloody fungus arising from them exteriorly and interiorly, so as to cover the teeth, alveoli soft and ulcerated to the roots of the teeth, the cavity of the mouth much diminished by the swellings, each larger than the thumb, limit of the disease easily discoverable by the finger, complained of pain, especially during mastication, fungus bleeds when touched, and pours out a fetid ichor, health begins to be affected, tongue, throat, &c. appear to be healthy.

The operation, after suitable preparation, was performed in the following manner: Patient seated facing the light, head supported on the breast of an assistant, who at the same time made pressure on the sub-maxillary arteries, the whole of the upper lip was then divided and detached from the lower jaw in a great measure, so as to expose the fungus, he then cut circularly the soft parts and the periosteum below all the alveoli, in which the bone was healthy, and on the prominent part of the chin a few strokes of the saw were employed. At this point he inserted a strong cutting scalpel into the groove made by the saw, which he drove in with a few blows with a hammer, first directing to the left then to the right side; an assistant in the mean time drew the jaw downwards and forwards; the whole ostes-sarcome was now removed by merely dividing the soft parts adhering to the internal concave part of the bone; last molar tooth on the left side was left untouched, as it was not diseased, bleeding profuse, which was arrested by the actual cautery, the upper alveolar arch was removed in a similar manner, the lip

was then united by means of three needles and the twisted suture; at this time the patient fainted, but was soon restored; the deformity from this operation inconsiderable.—(*Ibid. Sept.*)

7. *Parallel between the Symptoms of the Cerebral Fever and Worm Fever of Children. By M. Gintrac, physician of Bordeaux.*—The similarity, or at least the analogy, of cerebral irritation and worm affections, or more properly speaking, intestinal affections, in children, has deceived the most attentive physicians, and is hourly leading a great many practitioners into erroneous decisions and improper practice, in every country of Europe. How common is it to hear a man speak of the number of cases of acute hydrocephalus or brain fever he has had to treat, and the great many cures he has performed of such; when, in reality, three-fourths of these cases were infantile remittent, or intestinal fever. The following parallel, though far from being free from objections, may be of some use to the young practitioner at the bed-side of sickness. It may be premised that there is no one pathological symptom which can be depended on as characterising idiopathic cerebral fever, nor yet the intestinal. We must draw our conclusions from the whole of the symptoms taken collectively.

1. Those children who are most disposed to worm or intestinal affections, are of the lymphatic temperament, weak constitution, and lax fibre. Those most disposed to cerebral irritations, on the contrary, are the robust, the active, the irritable, and of the sanguine temperament.

2. The *former* have large bellies, and eat much. The *latter* have large heads, and the facial angle near the 90th degree.

3. Children who have previously had worms or intestinal affections, are more disposed to have the same again, and, therefore, their previous history should be carefully inquired into. On the other hand, there is but too much reason to believe that the disposition to cerebral irritation is often hereditary, and, therefore, the history of the family is deserving of investigation.

4. Female children are supposed to be more frequently affected with worms, and males with cerebral fever.

5. This last (cerebral) affection often results from external causes, as blows on the head, falls, insolation, suppression of discharges from the neighbourhood of the head, or of cutaneous eruptions. The production of worms and of intestinal affections, is generally facilitated by all debilitating causes, bad diet, too much vegetables, pastry, salted viands, and improper drink, to which may be added, too much medicine.

6. In cerebral fever we may have pain in the belly; but where there are worms in the primæ viæ, this pain is much greater, and especially when the stomach is empty. It is relieved by the ingestion of food.

7. Vomiting is a common symptom at the commencement of cerebral fever; it rarely takes place in worm affections, unless these animals ascend into the stomach, and then they are often discharged during vomiting.

8. In cerebral affections the appetite is impaired or annihilated, in worm affections it is commonly augmented.

9. In idiopathic cerebral affection the abdomen becomes flattened. Dr. Golis has particularly insisted on the importance of this symptom. Where worms are the cause of the fever, the belly is hard and distended, borborygmi are heard, and there are eructations.

10. Constipation is almost always an attendant on idiopathic cerebral fever, and when the motions appear, they are disordered, generally green, or slimy, or gelatinous. Worms, on the other hand, generally keep up more or less of diarrhœa, the motions being mucous, glairy, and fetid.

11. In worm affections the secretion of bile is increased. Brera regards this sign as very remarkable. It seldom obtains in cerebral affections, where the mouth is generally dry.

12. Cerebral irritations produce, in the beginning, redness at the tip, and

along the edges of the tongue; worms, on the contrary, cause the root and middle of the tongue to be covered with a thick mucous fur.

13. The breath is fetid in worm affections, but rarely so in cerebral.

14. Cephalalgia is an almost constant symptom of cerebral affection. It is acute, and often causes the child to cry out, *oh, my head!* In verminous fever, the pain never arrives at this height. It is vague, obtuse, and the child seldom complains of it in particular

15. In cerebral affections, the child often directs his hand to his head, while in verminous diseases, it is more commonly to the nose that the fingers are directed, in consequence of the itching there.

16. In both kinds of affection, the sleep is occasionally disturbed, but where the brain is the seat of lesion, the sleep is never natural, it is a kind of drowsiness, amidst which the moanings of the child are frequently heard; in worm affections the sleep is profound, though often interrupted by dreams and startings.

17. In both affections we observe grindings of the teeth; but when there are worms, we will often perceive a movement of deglutition during sleep, hiccup, and occasionally certain convulsive movements of the thumb and index finger.

18. The convulsions which we see both in cerebral and worm affections, may be very severe in either case, and greatly resemble each other; but in the *former* they are generally preceded by pain in the head, drowsiness, fever, &c. whereas, in the *latter* class, the convulsions are rarely ushered in by the symptoms above mentioned

19. The coma which we occasionally observe in verminous affections, comes on very suddenly; but does not last long, and often leaves no trace of its existence.

20. The delirium, in cerebral fever, is very rarely violent; that produced by worms, occasions more agitation, and more extravagant actions.

21. The paralyses that occur are always more serious and permanent in the idiopathic cerebral maladies, more partial, transient, and variable in the *verminous complaints.*

22. Dilatation of the pupils often takes place in the *latter* class, and even before the attack of illness, in which case there is no aversion to the light, no affection of the sight. In the early period of cerebral irritation, the eye cannot bear light, the pupils are often contracted, and the dilatation that succeeds is only the result of loss of sensibility in the retina. In these cases there will be perceived an oscillatory movement in the iris, when a lighted candle is brought near the eye, and which M. Odier of Geneva, considers as an indication of effusion into the ventricles.

23. Strabismus is a strong symptom of cerebral lesion, especially of compression; it is rarely observed in verminous diseases.

24. In children affected with worms there is generally seen a dark circle round the eyes, a symptom but seldom observed in cerebral affections. In these *last* the nostrils are dry, in *worm fever* they are moistened with mucous matters. In the *latter* there is often a puffy swelling of the upper lip, the same is seen in scrofulous children. It is rarely the case in idiopathic cerebral fever.

25. The complexion in worm cases is pale and leaden, in cerebral affections it is very variable, sometimes pale, but more commonly flushed.

26. Rolling the head on the pillow is a sign of cerebral, rather than of worm affection.

27. The pulse, as was before observed, presents, in cerebral irritation, great inequality, as, first frequency, then slowness, and then again great quickness. These modifications are not distinguishable in verminous affections. In these, the pulse is generally small, unequal, and occasionally intermittent.

28. M. Cruvelheir has always observed the respiration unequal in hydrocephalic affections, a symptom which he considers as pathognomonic, but this phenomenon occurs often in other affections of children.

29. The temperature of the skin is elevated in cerebral fever, but in worm fever it is little above the natural level. In the *former* the heat of the head is much above that of the abdomen, while the reverse is the case in the *latter*. It is on this account that children with worm fever always feel better after taking cold drink. The skin is also drier in cerebral, than in verminous affections.

30. The emaciation in cerebral fever is very rapid and general; in verminous disease there is also marasmus, but it is not near so rapid. It is particularly observable in the extremities, while the abdomen preserves its size.

31. In cerebral fever the urine is very scanty, red and sedimentous. In worm fever, the urine is sometimes clear and plentiful, more frequently troubled like whey, and letting fall a whitish sediment.

32. In verminous affections, there is much instability in the symptoms, thus coma, delirium, blindness, aphonia, &c. succeed each other with rapidity; while, in cerebral fevers, we find a greater obstinacy, a more sustained march of the symptoms, which are regularly progressive.

The foregoing parallel or contrast, call it which we may, appears to be drawn from the observations of the best practical writers on the two diseases, and is well deserving of attention from the young practitioner. It must be remarked, however, that whatever be the original seat of the disease, when the head becomes affected, even sympathetically, we must attend carefully to that feature of the complaint. Nor does this part of the treatment interfere with that which is properly directed to the expulsion of worms, or the removal of bad secretions from the primæ viæ. These last very frequently determine cerebral irritation, in certain constitutions, and lead to hydrocephalic effusion in the end.—(*Journal General de Medicine*, 1825.)

8. *Extirpation of an extraordinary large scirrhous parotid gland. By Dr. Prieger, of Kreuznach.*—This dangerous, and by some persons deemed impracticable operation, has been performed five times in Germany within the last five years. Dr. Prieger published his first case in which he performed this operation on a woman, in Vol. II. of Graefe and Walther's Journal: the patient was, at the time of writing the present history, in good health, and the mother of a healthy child. Professer Weinhold of Halle, is said to have extracted the parotid gland, partially and completely, three times; the first time a large portion of the indurated gland was removed by applying a ligature around its base: the second extirpation, which was only partial, was performed by the knife, the trunk of the carotid was laid bare, and the whole of the upper part of the gland dissected out. Professor Walthan of Bonn, has also described a case which was considered at the time to have been a scirrhous parotid which he removed. He has since, however, changed his opinion, and acknowledges that it was only a sarcomatous tumour which grew over the parotid. The same doubts do not, however, apply to the following case of Dr. Prieger's, which we find in the second number of *Rust's Magazine* of 1825.

Juliane Heimen of Mitelreulenbach, in Saxe-Cobourg, 43 years of age, of a middle stature and weak constitution, the mother of eight children, escaped all the dangers incident to the diseases of children, and enjoyed, even to the period of her becoming pregnant, very good health. When she was about thirty-three, she was confined to her bed for some weeks with a nervous fever; after her recovery from which, without any known cause, she was attacked in the night with a violent pain in the right side of the cheek and neck, so sudden, that she was obliged to have her head supported by her husband. Without using any medicine, this pain gradually diminished, but how long after, the patient could not exactly recollect. There was no swell-

ing of the part at the time, but the patient perceived afterwards a small hard tumour in the lower part of the gland just opposite the ear; when it was first discovered, it was not larger than a pin's head, but during nine years it regularly increased to the size now about to be described. The swelling was sought to be dispersed by plasters and various applications, but without avail.

The tumour was hard, uneven, the prominences on it sensitive and slightly reddened, somewhat tuberculated and immoveable. It commenced on the outer side of the right ear, gradually ascended toward the zygomatic process of the superior maxillary bone, protruded over it, extended itself toward the lower eye-lid, from which it was only half an inch distant, and then descended toward the nose and corner of the mouth. The eye was always in a state of epiphora as if the lachrymal canal was stopped up. The nose and angle of the mouth were, from the weight of the tumour, drawn downwards, so that at last there was almost a constant flow of saliva over the chin. The swelling extended over the right side of the chin toward the larynx, which was pressed very much toward the left side; the face was so much turned to the left side by the weight and size of the tumour, that the chin projected over the second left rib. The tumour as it continued to increase, extended backwards and downwards over the mastoid process, pushed up the lobe of the ear, and caused it to project very considerably forwards. The breadth of the lower part of the swelling measured eight inches, and on its surface many blood-vessels were visible.

The patient was very much emaciated, and bore the marks of much anxiety and pain in her countenance: the sleep was very disturbed, the pain in the head frequent, violent, and pulsating; she was obliged to lie on the left side, and complained of great pain in the throat when she attempted to swallow. The pulse was in general regular, and menstruation had not ceased. The middle of the tumour first began to be painful and red, and the patient every day became more cachectic, so that no doubt remained that the swelling would go over into a *cancer apertus*. The operation was performed on the second day of Dr. P.'s seeing the patient.

"*Operation.* On the 7th of September, 1824, the operation was performed as follows. The patient was placed on a mattrass with her head supported, and turned toward the left side, and now, taking the tumour in my left hand, and drawing it upwards as much as possible, with a convex bistoury I commenced a semicircular incision from below upwards, the incision commencing near the larynx, and its convexity turned toward the chin, the dissection was continued from within outwards, and then from above downwards, so that the greatest part of this enormous mass was separated without much difficulty, with the exception of about an inch of its structure, which was very much hardened, and lying between the angle of the lower jaw and the processus mastoideus, the point in which the swelling commenced. This part was separated with the greatest care, and in the bottom of the wound the *carotis facialis* was distinctly seen pulsating. During the operation, the patient did not complain of much pain, except when the branches of the portio dura, and the maxillaris inferior were cut through; it was then very severe. The quantity of blood lost was very considerable, amounting to twenty ounces, although the vessels were secured as speedily as possible. Eleven arteries, branches of the temporal, transversus faciei and carotis facialis required to be tied. By the most careful and repeated dissection which so large an extent of wound readily allowed, all the parotid was removed; not a trace of the gland itself, or of the glandula accessoria was allowed to remain. The wound was dressed by first bringing the edges together by sutures, over them were laid straps of adhesive plaster, then a compress, and the whole secured with an appropriate bandage. The patient was kept quiet in a dark chamber, and allowed nothing but a little gruel.

The tumour after it had been for some time macerated in water, and the

blood drawn out, weighed *three pounds and a half*, apothecaries' weight—it was on all sides uneven, tumulated, and throughout of a very fine consistence. With the exception of a few unimportant accidents, as a little difficulty of swallowing, which continued only a few days, and a little cough, which was readily quieted by the ordinary remedies, nothing peculiar happened during the process of cure. On the 10th of September, the third day after the operation, some of the sutures were removed, as the adhesive plaster was found sufficient to hold the edges together. On the 12th, all the sutures were taken out. The ligatures began to separate on the 11th, and on the 20th, they were all withdrawn. The granulating process proceeded most rapidly, every day there was an evident improvement, and on the 1st of October, the patient left the hospital perfectly cured, with a cicatrix about three lines broad in some places, and set out on foot to make a journer of eight hours (almost 20 English miles) to her native home.

The perusal of this case shows that the operator is a bold surgeon, and a good anatomist. It is to be regretted, that he has not described the structure of the tumour more accurately, as from what he has said of it, it is impossible to judge whether it is scirrhous or not. The rapidity of the cure is almost as astonishing as the extent and progress of the disease. Richerand Boyer, Richter, and Mr. Allen Burns, have all contended, that such an operation was impossible; the enterprising spirit of modern surgeons has shown the contrary, and the adopted motto appears to be *nil desperandum*.

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9. *Powers of lunar caustic in arresting Inflammation.**—Mr. Higginbottom, whom our readers will no doubt recollect, has laid before the public some more cases of local inflammation, successfully treated by his favorite remedy, the nitrate of silver.

A servant girl, æt. 16, complained of pain and swelling attended with inflammation on the fore part of the knee. The skin was sore and hard to the touch; pulse frequent and feverish; she was accustomed to kneel in washing, &c.; an emetic and purgative were given, and the lunar caustic applied all over and beyond the inflamed part. Two days afterwards the swelling had much subsided; the tenderness was gone. In a few days the girl was well.

This case was doubtless one of incipient irritation and inflammation of the bursa mucosa. We have seen similar instances, where leeches, lotions, rollers, &c. have been applied, and, at the end of some weeks the patient has been worse than at first.

A servant maid, æt. 24, pricked the middle finger of the right hand. It became swollen and extremely painful, as well as the back part and palm of the hand. On opening the wound with the lancet a little pus escaped. The caustic was well applied to the wound, and also to the inflamed parts of the finger and hand. An emetic and purgative were given, and the hand kept in a sling The symptoms had disappeared in the course of two days, and she quickly recovered.

A girl, æt. 20, wounded the first joint of the fore-finger with the bone of a hare. In a few days afterwards the finger became swollen, painful, and affected with erysipelatous inflammation reaching to the back of the hand, and bordered by a ring of a more vivid colour. Caustic applied as usual. In two days time the swelling had become puffy, and the pain disappeared. The hand, in a few days, was quite well.

A country woman had several fingers and great part of one hand much swollen with considerable pain; some fever; tongue white; a great degree of pain in the axilla. An emetic and purgative with calomel were given, and the lunar caustic applied. Three days afterwards the patient was free from complaint.

* Med. and Phys. Journal for May, 1826.

We must acknowledge that we have seen cases apparently quite as simple as several of these end in a very different manner. Some have run on to suppuration, sloughing, and ended in amputation. Other patients have had the luck of being on the list for a few weeks, perhaps months, and escaped at last with a stiff hand or knee, as the case might be. Few, very few, have got off so cheaply as our author's patients. Mr. Higginbottom recommends the inducing of an eschar over the seat of an internal disease or inflammation. We think this mode of employing the caustic will hardly be of much service, for here the cautery can operate but as an issue, having no local nor specific action in checking the inflammation —*Ibid.*

10. *Rupture of the Uterus in early pregnancy.*—Messrs. Moulin and Gibert presented to the Academy of Medicine, in the autumn, a piece of morbid anatomy, of which we shall here give the history, somewhat abbreviated.

Mad. Cayer, 26 years of age, had laid in of her first child, at full term, in the year 1821 This event was succeeded by two miscarriages, one at four, and the other at five months, in the year 1823 and 1825. Her health had not suffered by these accidents, and she again became pregnant in May, 1825. Nothing particular occurred until the 7th of August, when, having taken a very hot bath and dined lightly, she repaired to an assembly, where she amused herself with dancing, of which she was passionately fond. In the midst of a waltz, she felt something crack in the lower part of the abdomen, and instantly fell down in a state of syncope. She was conveyed to bed, and the most alarming symptoms rapidly supervened. The abdomen swelled and became painful; the pulse faultered; the countenance sank; the body was covered with cold sweats; inexpressible anxiety and restlessness came on, with vomiting, &c. Messrs. Moulin and Gibert were quickly on the spot; and, on examination, no discharge from the vagina was discovered, nor any thing unusual about the uterus. One of the medical attendants came to the conclusion, that a rupture of the *liver* had taken place. Twenty leeches were applied to the right hypochondrium, followed by fomentations, acidulated diluents, &c. At four o'clock in the morning the medical gentlemen were again summoned, as the patient was said to be dying. More physicians were called in, and though all agreed that the poor lady was at the point of death, there was great discordance, as usual, in respect to the cause of the fatal catastrophe. The scalpel cleared up the mystery. There was nothing wrong in the head or chest. On laying open the abdomen, a quantity of pure and fluid blood flowed out. The liver and other abdominal organs were all sound. Attached to the uterus was seen a round mass of coagulated blood, in the centre of which was found a fœtus of about ten weeks old, encircled with its membranes. There was a rent in the fundus of the uterus, through which the fœtus had escaped into the abdominal cavity. Around this rupture the substance of the womb appeared rather softened, but not thinner than in any other part. There was no other morbid phenomenon worthy of record.

This is certainly a most rare, if not a unique case of rupture of the uterus; for we do not recollect any instance of the kind on record, at so early a period of pregnancy But a suggestion was started by one of the gentlemen at the academy when the parts were examined there, that the case was probably one of those which Carus calls *demi-extra uterine* pregnancies; that is, where the fœtus is developed in the parietes, instead of the cavity of the uterus, in the vicinity of the opening of a Fallopian tube; a species of extra-uterine impregnation so accurately described by M. Breschet. Would the Cæsarian section, at an early period after the rupture, have offered any chance of success, with or without transfusion of blood?—*Archives*, 1825.

11.—*Extra-uterine fœtus removed with success.*—This formidable operation has been successfully performed, it appears, by a Mr. Bulh, in Germany, during the last year. The woman was 36 years of age, and had borne children in the natural way. A tumour rose in the umbilical region, and at length

broke in two places, and discharged some pus. A surgeon enlarged one of the openings, when a quantity of sanies came away, together with portions of skin and hair. On farther examination it was ascertained that there was an extra-uterine fœtation, and it was determined that gastrotomy should be performed. An incision was made, from above the umbilicus to within an inch or two of the pubes, when the fœtus presented itself, and was removed. The umbilical cord was traced to the side of the uterus, and there it was seen implanted into a soft vascular network, which was probably the placenta. The whole was removed, the fluids sponged up, and the wound brought together by means of sutures. Inflammatory symptoms came on next day, and rose to an alarming height; but these were subdued, and the poor woman completely recovered, so as to be able to leave her bed on the 55th day from the operation.—*Ibid.*

12. *Sudden and mysterious death.*—A young man (Lefevre) had been subject, during eighteen months, to pains in the epigastric region, which were aggravated by pressure; the tongue was occasionally white in the centre, and red at the sides; breath fœtid; bitter taste in the mouth; nausea; anorexia. To these symptoms were sometimes added diarrhœa, alternated with dryness of the skin and some febrile movement in the vascular system. These phenomena were generally dissipated by a few leeches, low diet, warm baths, and diluent drinks; and were always exasperated when the patient deviated from a low diet, and took stimulating food.

On the 2d November, 1824, Lefevre made a hearty breakfast, and was immediately seized with vomiting, restlessness, diarrhœa, and severe pains in the abdomen, coldness of the extremities, accompanied by feeble pulse and cold sweats. The symptoms were so extremely threatening, that M. Lombard, the medical attendant, conceived there was a perforation of the stomach or intestines, and prognosticated accordingly. Forty leeches were applied to the abdomen, with fomentations, &c. and M. Segelas was joined to the consultation. But no mitigation of the symptoms was produced, and Lefevre expired 17 hours after the commencement of the attack.

*Dissection.* On opening the abdomen a fœtid gas was exhaled, and a considerable quantity of sero-sanguineous fluid escaped. The portion of peritoneum lining the abdominal parietes was covered with a multitude of small, round, and prominent tubercles, closely resembling an eruption of confluent small-pox. The intermediate spaces in the peritoneum were apparently healthy. The peritoneum reflected over the intestines was of a red rose colour, and presented a few of the said tubercles, as did the membrane where it is reflected over the mesentery and under surface of the diaphragm. There was no sign of perforation. There was a portion of small intestine, about a foot in length, of a livid red colour externally. There were some erosions in the mucous membrane of the stomach, which was softened and disorganized near the pyloric orifice. This was also the case in the mucous membrane of the duodenum. There were some erosions and marks of inflammation in the lining membrane of the small intestines, and upper port. of the colon.

This case shews how speedily mortal may sometimes be an acute inflammation supervening on a chronic.—*Ibid.*

13. Dr. Blaup, chief physician of the Hospital of Beaucaire, has drawn the attention of his brethren recently to the subject of idiopathic palpitation, and relates some cases in elucidation. We shall first advert to the cases.

*Case* 1. A young woman, 21 years of age, in poverty and distress of mind, was carried to the hospital, on the 2d of April, 1825, having been two days ill. Excepting the functions of circulation and respiration, all the other organic actions appeared to be going on regularly. In the region of the heart were felt and distinctly heard the most violent and tumultuous palpitations, which sometimes subsided a little, but were readily excited by the slightest motion of the body. The pulse corresponded, being very quick, unequal,

and intermitting. The respiration was embarrassed; but the respiratory murmur could be distinctly heard in every part of the chest. The complexion was natural; no œdema of the lower extremities; no difficulty in lying in the horizontal position. The complaint had come on suddenly, without any evident cause, unless it was the mental chagrin under which she laboured. One grain of digitalis was prescribed thrice a-day. *Second day.* The same phenomena. Two grains of digitalis four times a-day. *Third day.* Some amelioration of the symptoms. Four grains of digitalis every three hours. In the evening the young woman ate largely of some salted and seasoned tongue, and was soon after seized with vomiting, lypothymia, and other alarming symptoms, which lasted all the night; but the pulse had become small, slow, and regular. *Fourth day.* No palpitation. From this time she continued well, and was soon discharged cured.

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14. *Poisoning by Tartar-emetic.*—Dr. Sauveton of Lyons, has lately published a case of this kind, where a lady swallowed, in a mistake, about a drachm of tartarized antimony dissolved in whey. In ten minutes after the accident, M. Sauveton was on the spot, and promptly exhibited about two ounces of tincture of yellow bark diluted in several glasses of cold water. The bad effects of the poison were almost entirely prevented, being limited to some nausea and epigastric pain, the latter continuing more or less for four or five weeks. He would advise the bark in substance to be given in such accidents in future, but we do not see any good reason for this preference; and the bulky nature of the powder would be more likely to increase the vomiting.

15. *Antiphlogistic Treatment of Cancer.*—Mons. Puel, Chief surgeon of the Civil Hospital of Figeac, had long been in the habit of treating, and, according to the documents published by his son, of *curing* cancer of the mamma and other parts, by starvation and bleeding, more especially local bleeding. The practice is not new, as every body knows; but still, it may be useful, though long neglected. When Dr. Barry showed that cupping-glasses applied to a poisoned wound completely arrested the progress of poison into the circulation, and secured the animal from certain death, it was immediately discovered that Celsus had recommended the same measure in poisoned wounds, and especially in those occasioned by the bite of a rabid animal. Yet, the recommendation of Celsus was a dead letter, to all intents and purposes, and, therefore, Dr. Barry is just as much entitled to the merit of the discovery as if Celsus had never put pen to paper. It is well known that Fearon, in this country, some 20 years ago, maintained that cancer was always an inflammatory affection, and that its only remedy was to be sought in repeated leechings, and the other antiphlogistic measures. Every well-informed surgeon, indeed, knows that the growth of cancerous, or rather of scirrhous tumours, is connected with, if not dependent on, an inflammatory or turgescent state of the vessels of the part, and, therefore, endeavours to check their growth by local depletion. But then, it must be recollected, that there is such a thing as a morbid *deposition* or change of structure, which is to be removed, and consequently absorption is to be promoted, while nutrition is to be retarded. This important process seems to have been over-looked both by Mr. Fearon and M. Puel. In all tumours of the female mamma, and, indeed, we might say, in all tumours, where there is pain, throbbing, or heat, leeches should be applied every three or four days, till the tenderness subsides, and then friction, with mild mercurial or iodine ointment should be alternated with the local depletion. This, with low diet and antimonials internally, will check or remove tumours if any thing will. Nine cases are related by the younger Puel, where the depletive practice was successful in the hands of his father, not only in scirrhous but in open cancer. These cases are detailed in the *Archives* for October, 1825.

# MEDICAL INTELLIGENCE.

1. *Report on the Prize Question concerning the Yellow Fever, given by the Duke of Oldenburg; communicated by Dr. G. Von Dem Busch, of Bremen, Member of the Medical Societies of Philadelphia and Stockholm.*—The Duke of Oldenburg offered, in November, 1822, a prize of 200 Dutch ducats for the best treatise upon several questions respecting the contagious nature of the yellow fever. The circular published upon the subject was distributed, with great care, over all parts of the civilized world, the questions circulated in a great number of periodical writings, and were communicated to the physicians of the United States by the American Medical Recorder. The examination of the several treatises that were offered, was committed to the faculty of Berlin. On the 1st of October, 1824, eighteen treatises had been handed in, six of which were in the German, four in the French, seven in the English, and one in the Latin language. This last came from Cadiz, and three of the English from the United States.

All of them were returned to Oldenburg, by the faculty, on the 3d of March, 1826. The prize had been awarded to one of the German treatises, the motto of which was, "Opininum commenta delet dies, natur judicia confirmat." Upon opening the sealed note, the author was found to be Dr. *Carl Christian Matthaei*, of Verden, near Bremen, court physician to the king of Hanover.

The opinion passed by the faculty on this treatise was as follows:

"The author, after having examined the several pretended causes of the disease, shows them to be unsatisfactorily explained, and that there must be some others as yet unknown; and after having counted up and carefully weighed all the reasons hitherto promulgated pro and con the contagious nature of the disease, at last decides himself *for the contagious nature of the yellow fever.* The causes of the origin and propagation of the disorder are enumerated by the author with the utmost exactness and accuracy. Tables containing the symptoms, the progress, and the results of the anatomical investigations on the subject, made up with the utmost care and exactness, tend to prove the nature and identity of the disease between the tropics in North America and the south of Europe.

The author's opinion is, that the yellow fever appears as a disease of its own species, endemical only in low countries of the sea coast, but, under some circumstances, also sporadic in other places. The disease, he says, never made its appearance beyond the 48° north latitude, and a temperature as high as 72° Fahrenheit is necessary for its production and propagation. He believes that there is, indeed, a possibility of its being propagated by means of contagion in the seaports of North Germany, and by reasons of analogy answers the question, whether any other malignant diseases can be generated by it? in the affirmative. The measures he proposes to prevent the propagation of the contagious virus are such as are generally made use of.

As an appendix to the treatise, he gives the most important citations from all the authors who have written upon the subject; an alphabetical catalogue of all the writings to this purpose; an alphabetical enumeration of all the epidemics of the yellow fever; and another of all the places at which it has been either generally reigning, or ever perceived; and at last, geographical maps giving an easy view of the propagation of the epidemics in the two hemispheres.

Its literary merit, the careful and ingenious comparison of facts, and critical disquisition of them, give so distinguished a value to this treatise, that the faculty did not hesitate to adjudge the prize to its author."

Of the three English treatises sent from North America, one was in quarto,

containing fifty-eight sheets, and had a Greek motto from Hippocrates; a second, also in quarto, was without a motto; and a third was with the motto, "to relieve the distress of man is man's noblest object." The two first are highly praised by the faculty.

The names of the Professors of the faculty of Berlin, who adjudged the prize, are, *Link, Berends, Gräfe, Knappe, Hufeland, Rudolphi, Horn, Horkel, Siebold, Wolfart.*

2. The following honourable testimonial to the merit of Dr. Cartwright of Natchez, will be read with pleasure by all those who have read the essays which are its subject.

*City Hall, Natchez, April 11th*, 1826.

At a meeting of the President and Selectmen, held on the 8th inst., Mr. Burns laid before the Board, a copy of the *Medical Recorder*, containing the first part of a "*Series* of *Essays* on the causes, symptoms, morbid anatomy, and treatment of the principal diseases of the southern states," written by *Dr. Samuel A. Cartwright*, which he had been requested by the *author* to present to the *President* and *Selectmen* of the *city* of *Natchez*.

Whereupon, the following *Resolution* was unanimously adopted, viz.:

*Resolved*, That the thanks of this *Board* be presented to Dr. Cartwright, and that the city clerk do furnish him with a copy of this *Resolution*.

GEO. S. GUION, C. Clk. *pro tem.*

3. It appears that Drs. Cartwright and Denny have lately made a communication to the City Council of Natchez, on the subject of the peculiar sporadic fever of that city, on which we are promised communications.

4. We have received an ingenious communication on the subject of sea-sickness, by Dr. Isaac Hulse, surgeon in the navy. He considers that the effect of sea-sickness is to determine the blood to the capillaries, and, therefore, in persons who have pulmonary affections and are liable to sea-sickness, the result is likely to be dangerous, and hastens the fatal event. A serious hæmoptysis took place in his own case from this cause. We recommend the subject to his attention, and shall be happy to hear any farther views he may have on this interesting subject.

5. *Bustleton, Sept. 26th*, 1826.

To James Webster, Jr. M.D.

Dear Doctor, agreeably to your request, I transmit you some account of the case of fracture, in which I used Amesbury's apparatus with such complete success.

Daniel Stevenson, aged about 30, was thrown from his wagon on the 30th of March last, and both the wheels ran over his leg, one of which produced a fracture of the tibia, obliquely, near its middle; the other greatly contused the leg near the knee..

I coapted the bones and applied Hutchinson's splint, with loose dressings. On the day following, inflammation had run so high that I removed all dressings, elevated the foot and kept it constantly wet with an evaporating lotion, bled, purged, &c. Under this plan, for about a week, inflammatory symptoms had so far subsided, as to induce me to again apply the dressings, when Hutchinson's or Dessault's splint was kept on for about ten weeks, without any appearance of union of the bone. Being desirous that my patient should have the best possible chance for his recovery, I consulted some of my medical friends in Philadelphia. One of whom, Dr. T. Hewson, advised me to try the Amesbury apparatus, and knowing of none but what you had, you may recollect that on the 16th of July you brought them out, and we applied them upon his leg. He went on crutches, or rode about attending to his farming affairs, for nearly six weeks before I examined the leg again, when I found it very much stiffened, but advised him to wear it a

little longer, and you know that he called on you, in town, with a leg as firm as the other, in two months from the time of its first application.

In giving my testimony in favour of the apparatus, I say that it appears to me to be the best calculated to secure the two great objects in view, viz. the *comfort* of the patient and the *speedy union* of the broken bone, of any contrivance that I have ever seen. Yours, &c.

M. B. SMITH.

6. At the fifth annual meeting of the Pittsburg Medical Society, held June 24th, 1826, the following gentlemen were elected officers for the ensuing year:—

*President*, W. CHURCH, M. D.
*Vice-President*, W. H. DENNY, M. D.
*Chairman*, Dr. FELIX BRUNOT.
*Corresponding Secretary*, JOHN S. IRWIN, M. D.
*Recording Secretary*, Dr. H. HANNEN.
*Treasurer*, W. F. IRWIN, M. D.
*Librarian*, JAMES R. SPEER, M. D.
*Curators*, Drs. DENNY, SPEER, & WRAY.

The papers read at the stated meetings during the year ending June 24th, 1826, are as follows:

An Essay on Cholera Infantum, by J. P. Gazzam, M. D.
on Erysipelas, by W. F. Irwin, M. D.
on the Waters of the Bedford Springs, by W. Church, M. D.
on Dysentery, by Dr. D. S. Stevenson.
on the best means of recovering persons labouring under suspended animation from drowning, by J. S. Irwin, M. D.
Cases in Obstetrics, by W. Church, M. D.
An Essay on Puerperal Fever, by Dr. C. L. Armstrong.
on Tetanus, by Dr. Hannen.
on Phlegmasia Dolens, by J. P. Gazzam, M. D.
on Lobelia inflanta as a remedy in Asthma, by W. F. Irwin, M. D.
on the uncertainty of the symptoms of a rupture of the Uterus, by W. Church, M. D.
A case of extensive wound of the Abdomen and Testicle, by J. S. Irwin, M. D.

JOHN S. IRWIN, M. D. *Corresponding Secretary.*

7. *Medical Prize Questions.*—At the annual meeting of the *Boylston Medical Committee of Harvard University*, holden in Boston, Aug. 2d, 1826, it was

*Voted*, That the Boylston Medal, or fifty dollars in money, be awarded to the author of a dissertation on the following subject, to wit.—'On the diseases resembling Syphilis, and the best methods of removing such diseases.'

The author was D. Humphreys Storer, M. D. No. 442, Washington street, Boston.

*Voted*, The same to the author of the best dissertation on the question, 'Whether the veins perform the function of absorption.'

The author was found to be Samuel A. Cartwright, M. D. of Natchez, Mississippi.

The public is reminded that the subjects for the prize dissertations for 1827, are the following:—

1. *On the History of the Autumnal Fevers of New England.**
2. *On Inflammation of the Periosteum, acute and chronic.*

The prize questions for the year 1828, are these.

1. *What are the circumstances in which the drinking of cold water in hot weather*

* It is expected that writers on this subject, will confine themselves to the *history* of these fevers.

*proves injurious; what are the diseases which arise from this cause; and what is the best mode of treating those diseases?**

2 *On the disease called an irritable state of the urinary bladder; its cause and treatment.*

Each dissertation is to be accompanied with a sealed letter, on the outside of which shall be written some device or motto, and on the inside, the name and place of residence of the author. The same device or motto must be written on the dissertation, to which the letter is annexed. No dissertation will be acted upon which has the signature of the author attached to it.

The dissertations must be transmitted, *post paid*, to Thomas Welsh, M. D. of Boston; those for 1827 on or before the 1*st of April*, 1827; and those for 1828 on or before the 1*st of April*, of that year.

All unsuccessful dissertations are deposited with the Secretary, from whom their authors may obtain them, if applied for within one year after they were received.

At the meeting above mentioned, the following votes were passed:

*Voted*, That the Committee do not consider themselves as approving any doctrines contained in any of the Dissertations, to which the premium may be adjudged.

*Voted*, That in case of the publication of a successful Dissertation, the author be considered as bound to print the above vote in connexion therewith.

J. GORHAM, *Secretary.*

8. Dr. Lobstein is engaged in printing a work on the Semeiology of the Eye. From the plan of it laid before us, as also part of the work, it will be extensive, and will give a general view of this extensive subject.

9. The Editor of the Recorder has received a communication from Dr. E. McDowal, of Danville, Kentucky, in which he states that he has been successful in extirpating the ovaria eight times out of nine, and that he was the principal director in the case lately related by Dr. A G. Smith. Dr. McDowal promises for the Recorder accounts of these and several other operations performed by him, should he not conclude to publish them in another manner. He further states, that upon young persons afflicted with hernia, he operates as though there was no strangulation, and has been uniformly successful. In one instance, the first attempt failed, in consequence of the young man jumping over a high fence to know whether he was strong in the part. He made round the ring, he says, deep incisions a second time, pressed the parts together; the young man is now perfectly well, and runs, jumps, &c. as well as ever. He further states, "I have operated on lithotomy 33 years, on perhaps 40 patients, and have never lost one; sometimes the gorget is used, sometimes the common scalpel, and on all with success." The sudden and great depletion used upon pain being felt over the pubis, is the cause of this success. He bleeds to syncope, and in many cases repeats it in two hours. He uses purges at the same time, and the strictest antiphlogistic regimen.

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[It is with regret that every well-wisher to the cause of science must witness the annexed statement of the want of patronage of the celebrated scientific journal, conducted by our countryman, Professor Silliman; any assistance which the various medical, literary, and other public papers, can

* The usual mode of publishing prize questions in pamphlets, is, from their limited circulation, a loss to the profession; if they were made known through the medium of some extensively circulated periodical work, their usefulness would be increased. The Medical Recorder is respectfully offered for this purpose.

give to the advancement of his objects, will be a service to our country, as well as to the merits of a distinguished individual who has so long been so extensively useful as a teacher and general promoter of science. With this view we publish the annexed statement with the contents of the last number.]

The American Journal of Science and Arts was projected in 1817, and commenced in July, 1818. Before this period no *original* Journal of Science had appeared in this country, except that of Dr. Bruce, which was limited to mineralogy, and ceased with the completion of the first volume. Several of our learned societies publish periodically, or occasionally, selections from their own papers, but the American Journal still remains the only vehicle for original American communications* relating to the physical sciences and their applications, *on a scale sufficiently extensive and various.*

The American Journal has been sustained with no small personal inconvenience, without reward, and under severe vicissitudes of health, until eleven volumes have been completed. Ample illustrations, by engravings, and a large excess of matter, in every volume, beyond what was stipulated, have made this a very expensive work. *Five hundred subscribers are necessary simply to pay its expenses*, and the present number, being somewhat under that amount, pecuniary advances have continued to be occasionally necessary, in addition to the editorial labour and responsibility.

Perhaps the editor, (since he is much more the organ of his correspondents, than his own) may be pardoned for quoting, on this occasion, the opinion of eminent men at home, with the expression of which he has often been gratified;—that the American Journal has contributed to elevate the reputation of our country abroad, that it has become identified with the interests and progress of science and the arts, throughout the civilized world, and that it forms an important member, of the great intellectual machinery of the age. In exchange it receives a large number of the principal foreign Journals, and their pages often contain matter derived from the American Journal. Its character, as an authentic record of original American communications, and discoveries, has caused it to be sought, abroad, with peculiar interest, and to be received with uncommon favour. In proof of this, it may be stated, that—among the learned associations and eminent men in Europe, who have addressed kind and commendatory letters to the editor, or have transmitted their works or Journals in acknowledgment, or in exchange, are; in Sicily, Professor Ferrara; in Geneva, the late Prof. Pictet; in Bavaria, the Chevalier De Martius; in Halle, Germany, Drs. Schweigger, and Meinecke, besides other German Profrs.;—in Sweden, Profrs. Berzelius and Sefstroem, in France, Brongniart, father and son, Dr. Majendie, Brochant, Gay Lussac, Julien, Editor of the Revue Encyclopedique, Baron Ferussac, Editor of the Bulletin des Sciences, the Council of Mines, the Society for the Encouragement of the Arts, that for the Promotion of National Industry, the Linnæan Society, &c. In London, the late Dr. Tilloch, and the late Mr. Parkes; Arthur Aiken, secretary of the Society of Arts, &c.; H. Heuland, secretary of the Geological Society, the Editors of the Annals of Philosophy, of the Philosophical Magazine, of the Journal of Science of the Royal Institution, of the Mechanic's Oracle, the Mechanic's Magazine, and several literary Journals. In the university of Oxford, Professors Kidd, Buckland, and Conybeare, with Mr. Philips, the distinguished coadjutor of the latter. In Edinburgh, Professor Jamieson, Dr. Brewster, and the late Dr. John Murray; and in Glasgow, Professor Thomson. At home, the American Journal is considered as an equivalent, in exchange, for our various

* The very respectable and useful Journals which occupy their pages principally with foreign matter, obviously do not form an exception to this statement.

literary and scientific publications; it enjoys the support and countenance of a great number of our able scientific, and public men, and its pages sufficiently evince how far it has proved auxiliary, to the development of native talent, and to the creation of useful effort in science and the arts.

It remains, however, for the editor to state, that to *this hour, the existence of the American Journal,* now in its ninth year, *is perpetuated, only by continued personal sacrifices.* He conceives himself bound by obligations of duty, to his fellow citizens, to renew this humiliating statement, and to appeal to the good sense and patriotism of the nation, whether a failure in such a case, and upon such principles, *would not, justly, disgrace the American character.* Although he would have consulted his own comfort, by having, long ago, relinquished this enterprise, still, he confesses his partiality to it, his disposition to persevere in his efforts, and his ambition to see the American Journal established *as a permanent* NATIONAL WORK. This object it is perfectly easy for his countrymen to accomplish, and to this end he asks them to extend the subscription so far, that the undertaking shall be no longer hazardous to the editor, and that he may be enabled to command all the intellectual and mechanical aid, necessary to the perfection of the work, and to its perpetuity. As a *definite* means of compassing an object, which to him appears (perhaps with undue partiality) so eminently desirable, he respectfully suggests to those who now honour the Journal with their patronage, the *simple, precise effort, of procuring each one additional subscriber;* and from such others, as may approve of the design, he solicits the advantage of their own names. If this request were generally complied with, the list of subscribers would soon be augmented to *one thousand,* a number necessary to give the Journal *stability,* and to add, in a desirable degree, to its efficiency and to the excellence of its execution. All beyond this, would go to the account of forming such an establishment, as would not fail of continuance, when the present editor shall have ceased from his labours.

B. SILLIMAN.

## TO MEN OF TALENT AND KNOWLEDGE.

A continuance and an increase of contributions, relating to science and the arts, and to *every useful branch of human knowledge,* is desired by the editor, who is fully sensible of the high value of past communications, to which the reputation of the Journal is chiefly attributable. Moral and political and intellectual science, and even literature, (to a certain extent,) are within the scope of the work, and able communications on such subjects will add to its utility and to its attractiveness.

TERMS.—The terms are three dollars a volume in advance. The volumes (of two Nos. each) contain 400 pages and rising. They have been published at such a rate, as to make the actual payment less than five dollars per anum.

Returns may be made, either to the editor, or to Messrs. Maltby & Co. the publishers.

Hew-Haven, October, 1826.

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